THINKER'S LIBRARY

HISTORY OF MODERN PHILOSOPHY

A. W. BENN

Steve Shapin

Science Studies Unit
Univ of Edinburgh

HISTORY OF MODERN PHILOSOPHY

GIORDANO BRUNO.
From the Statue in the Campo dei Fiori, Rome.

The Thinker's Library, No. 10

HISTORY OF MODERN PHILOSOPHY

BY

A. W. BENN,

AUTHOR OF "THE HISTORY OF ENGLISH RATIONALISM IN THE NINETEENTH CENTURY," ETC.

WITH PREFACE AND ADDITIONAL CHAPTER

BY

ROBERT ARCH,

AUTHOR OF "WHENCE, WHITHER, AND WHY?", ETC.

LONDON:

WATTS & CO.,

5 & 6 JOHNSON'S COURT, FLEET STREET, E.C.4

First published in the Thinker's Library, February, 1930

VOLUMES PUBLISHED IN THIS SERIES

No. 1. **First and Last Things.** By H. G. WELLS.

No. 2. **Education.** By HERBERT SPENCER.

No. 3. **The Riddle of the Universe.** By ERNST HAECKEL.

No. 4. **Humanity's Gain from Unbelief, and Other Selections from the Works of Charles Bradlaugh.** With Introduction by his Daughter, HYPATIA BRADLAUGH BONNER.

No. 5. **On Liberty.** By JOHN STUART MILL.

No. 6. **A Short History of the World.** By H. G. WELLS.

No. 7. **Autobiography of Charles Darwin.**

No. 8. **The Origin of Species.** By CHARLES DARWIN. (6th copyright edition.)

No. 9. **Twelve Years in a Monastery.** By JOSEPH MCCABE.

No. 10. **History of Modern Philosophy.** By A. W. BENN. With Preface and additional Chapter by ROBERT ARCH.

No. 11. **Gibbon on Christianity.** Being Chapters XV and XVI of Edward Gibbon's *Decline and Fall of the Roman Empire.* With an Introduction by the Rt. Hon. J. M. ROBERTSON.

No. 12. **The Descent of Man.** Part I and the concluding Chapter of Part III. By CHARLES DARWIN. With Preface by MAJOR LEONARD DARWIN.

Printed in Great Britain for the Rationalist Press Association Ltd. by Watts & Co. (C. A. Watts & Co. Ltd.), 5 & 6 Johnson's Court, Fleet Street, London, E.C.4.

PREFACE

THE decision of the Rationalist Press Association to include this reprint of Benn's *History of Modern Philosophy* in the *Thinker's Library* requires no apology. The plain man, and even the thinking man whose thought has travelled along other than philosophical channels, are apt to disclaim any ability to understand philosophy; and beneath the disclaimer often lurks a doubt whether the subject is worth understanding. The comparison of the philosopher to "a blind man in a dark room trying to find a black cat that isn't there" represents the opinion of many who in their own departments are by no means "low-brows."

Yet philosophy is in fact only the attempt to think rigorously and consistently about the world which undeniably *is* there. It requires in its votaries only a capacity for rigorous and consistent thought, and curiosity about problems which challenge such thought. If it is urged that the problems in question are already dealt with by science, the reply is that the special sciences sooner or later reach a point, each in its own sphere, where the investigator cannot achieve significant results unless he is something more than a specialist. Never was that more apparent than to-day. The physicist, investigating the ultimate constitution of matter in the light of the laws of his science, finds the entities with which he deals behaving in a way no longer amenable to those laws. The chemist, in order to account for the phenomena of which he treats, requires a kind of atom with which the physicist is unable to provide him. Each science deals with a set of facts in isolation from other sets of facts dealt with by the sister sciences, and, at the end of its observations, experiments, and theorisings, is left with results which require to be co-ordinated

somehow with those reached along other lines of research. If the function of philosophy were no more than to take up and connect the loose threads of the sciences, its existence would be justified.

But that is not its only function. Science, in the nature of the case, is obliged to ignore the problem of knowledge itself. In order to make a beginning, the scientist must at least provisionally assume that the data with which he starts are independent of his own mind. In science, therefore, there are unexamined assumptions, which it is the duty of philosophers to examine. To examine does not necessarily mean to reject, but it may mean to qualify. Some qualification of the initial assumptions of the special sciences may, in fact, be the means of reconciling and relating those of their results which, taken at their face value, appear contradictory; so that the two tasks of philosophy are interconnected.

Benn's *History* gives the reader a succinct and intelligible account of the way in which, starting from the first beginnings of freedom of thought at the close of the Middle Ages, the problems of philosophy presented themselves to successive thinkers, and of their formulation and treatment by each. The work closes with the end of the nineteenth century. The time which has elapsed since the book appeared perhaps justifies the addition of a chapter by the present writer giving a short summary of recent developments.

ROBERT ARCH.

January 18, 1930.

CONTENTS

PAGE

CHAPTER I

THE PHILOSOPHICAL RENAISSANCE 1

CHAPTER II

THE METAPHYSICIANS 26

CHAPTER III

THE THEORISTS OF KNOWLEDGE 55

CHAPTER IV

THE GERMAN IDEALISTS 86

CHAPTER V

THE HUMANISTS OF THE NINETEENTH CENTURY . 105

CHAPTER VI

RECENT PHILOSOPHY (*by Robert Arch*) . . . 125

BIBLIOGRAPHY 143

INDEX 147

LIST OF ILLUSTRATIONS

	PAGE
Giordano Bruno . . .	*Frontispiece*
Francis Bacon	11
René Descartes	29
Benedictus de Spinoza	39
David Hume	66
Immanuel Kant	73
G. W. F. Hegel	95
Arthur Schopenhauer	101
Auguste Comte	108
Herbert Spencer	117

HISTORY OF MODERN PHILOSOPHY

CHAPTER I

THE PHILOSOPHICAL RENAISSANCE

For a thousand years after the schools of Athens were closed by Justinian, philosophy made no real advance; no essentially new ideas about the constitution of nature, the workings of mind, or the ends of life were put forward. It would be false to say that during this period no progress was made. The civilisation of the Roman Empire was extended far beyond its ancient frontiers; and, although much ground was lost in Asia and Africa, more than the equivalent was gained in Northern Europe. Within Europe also the gradual abolition of slavery and the increasing dignity of peaceful labour gave a wider diffusion to culture, combined with a larger sense of human fellowship than any but the best minds of Greece and Rome had felt. Whether the status of women was really raised may be doubted; but the ideas and sentiments of women began to exercise an influence on social intercourse unknown before. And the arts of war and peace were in some ways almost revolutionised.

This remarkable phenomenon of movement in everything except ideas has been explained by the influence of Christianity, or rather of Catholicism. There is truth in the contention, but it is not the whole truth. The Church entered into a heritage that she did not create; she defined and accentuated tendencies that long before her advent had secretly been at work. In the West that diffusion of civilisation which is her historic boast had been begun and carried far by the Rome whence her very name is taken. In the East the title of orthodox by which the Greek Church is

distinguished betrays the presence of that Greek thought which moulded her dogmas into logical shape. What is more, the very idea of right belief as a vital and saving thing came to Christianity from Platonism, accompanied by the persuasion that wrong belief was immoral and its promulgation a crime to be visited by the penalty of death.

Ecclesiastical intolerance has been made responsible for the speculative stagnation of the Middle Ages, and it has been explained as an effect of the belief in the future punishment of heresy by eternal torments. But in truth the persecuting spirit was responsible for the dogma, not the dogma for persecution. And we must look for the underlying cause of the whole evil in the premature union of metaphysics with religion and morality first effected by Plato, or rather by the genius of Athens working through Plato. Indeed, on a closer examination we shall find that the slowing-down of speculation had begun long before the advent of Christianity, and coincides with the establishment of its headquarters at Athens, where also the first permanent schools of philosophy were established. These schools were distinctly religious in their character; and none was so set against innovation as that of Epicurus, falsely supposed to have been a home of free-thought. In the last Greek system of philosophy, Neo-Platonism, theology reigned supreme; and during the two and a-half centuries of its existence no real advance on the teaching of Plotinus was made.

Neo-Platonism when first constituted had incorporated a large Aristotelian element, the expulsion of which had been accomplished by its last great master, Proclus; and Christendom took over metaphysics under what seemed a Platonic form—the more welcome as Plato passed for giving its creeds the independent support of pure reason. This support extended beyond a future life and went down to the deepest mysteries of revealed faith. For, according to the Platonic doctrine of ideas, it was quite in order that there should be a divine unity existing independently of the three

divine persons composing it; that the idea of humanity should be combined with one of these persons; and that the same idea, being both one with and distinct from Adam, should involve all mankind in the guilt of his transgression. Thus the Church started with a strong prejudice in favour of Plato which continued to operate for many centuries, although the first great schoolman, John Scotus Eriugena (810–877), incurred a condemnation for heresy by adopting the pantheistic metaphysics of Neo-Platonism.

As the Platonic doctrine of ideas came to life again in the realism, as it was called, of scholastic philosophy, so the conflicting view of his old opponent Aristotle was revived under the form of conceptualism. According to this theory the genera and species of the objective world correspond to real and permanent distinctions in the nature of things; but, apart from the conceptions by which they are represented in the intellect of God and man, those distinctions have no separate existence. Aristotle's philosophy was first brought into Europe by the Mohammedan conquerors of Spain, which became an important centre of learning in the earlier Middle Ages. Not a few Christian scholars went there to study. Latin translations were made from Arabic versions of Aristotle, and in this way his doctrines became more widely known to the lecture-rooms of the Catholic world. But their derivation from infidel sources roused a prejudice against them, still further heightened by the circumstance that an Arabian commentator, Averroes, had interpreted the theology of the *Metaphysics* in a pantheistic sense. And on any sincere reading Aristotle denied the soul's immortality which Plato had upheld. Accordingly, all through the twelfth century Platonism still dominated religious thought, and even so late as the early thirteenth century the study of Aristotle was still condemned by the Church.

Nevertheless a great revolution was already in progress. As a result of the capture of Constantinople by the Crusaders in A.D. 1204 the Greek manuscripts of Aristotle's writings were brought to Paris, and at a

subsequent period they were translated into Latin under the direction of St. Thomas Aquinas, the ablest of the schoolmen, who so manipulated the Peripatetic philosophy as to convert it from a battering-ram into a buttress of Catholic theology—a position still officially assigned to it at the present day. Aristotelianism, however, did not reign without a rival even in the later Middle Ages. Aquinas was a Dominican; and the jealousy of the competing Franciscan Order found expression in maintaining a certain tradition of Platonism, represented in different ways by Roger Bacon (1214–1294) and by Duns Scotus (1265–1308). In this connection we have to note the extraordinary fertility of the British islands in eminent thinkers during the Middle Ages. Besides the two last mentioned there is Eriugena ("born in Ireland"), John of Salisbury (1115–1180), the first Humanist, William of Ockham, and Wycliffe, the first reformer—making six in all, a larger contribution than any other region of Europe, or indeed all the rest of Europe put together, has made to the stars of Scholasticism. This advantage is probably not due to any inherent genius for philosophy in the inhabitants of these islands, but to their relative immunity from war and to the political liberty that cannot but have been favourable to independent thought. Five out of the six were more or less inclined to Platonism, and their idealist or mystical tendencies were sometimes associated with the same practicality that distinguished their master. The sixth, commonly called Occam (died about 1349), is famous as the champion of Nominalism—that is, of the doctrine that genera and species have no real existence either in nature or in mind; there are only individuals more or less resembling one another. He is the author of the famous saying —the sole legacy of Scholasticism to common thought: "Entities ought not to be gratuitously multiplied" (entia non sunt præter necessitatem multiplicanda).

The capture of Constantinople by the Crusaders had led to Aristotle's triumph in the thirteenth century. Two hundred years later the conquering Ottoman

advance on the same city was the immediate cause of his overthrow. For the Byzantine scholars who fled for help and refuge to Italy brought with them the manuscripts of Plato and Plotinus, and these soon became known to Western Europe through the Latin translations of Marsilio Ficino. On its literary side the Platonic revival fell in admirably with the Humanism to which the Schoolmen had long been intensely distasteful. And the religious movement that preceded Luther's Reformation found a welcome ally in Neo-Platonic mysticism. At the same time the invention of printing, by opening the world of books to non-academic readers, vastly widened the possibilities of independent thought. And the Reformation, by discrediting the scholastic theology in Northern Europe, dealt another blow at the system with which it had been associated by Aquinas.

It has been supposed that the discovery of America and the circumnavigation of the globe contributed also to the impending philosophical revolution. But the true theory of the earth's figure formed the very foundation of Aristotle's cosmology, and was as well known to Dante as to ourselves. Made by a fervent Catholic, acting under the patronage of the Catholic queen *par excellence*, the discovery of Columbus increased the prestige of Catholicism by opening a new world to its missions and adding to the wealth of its supporters in the Old World.

The decisive blow to medieval ideas came from another quarter—from the Copernican astronomy. What the true theory of the earth's motion meant for philosophy has not always been rightly understood. It seems to be commonly supposed that the heliocentric system excited hostility because it degraded the earth from her proud position as centre of the universe. But the reverse is true. According to Aristotle and his scholastic followers, the centre of the universe is the lowest and least honourable, the circumference the highest and most distinguished position in it. And that is why earth, as the vilest of the four elements, tends to the centre;

while fire, being the most precious, flies upward. Again, the incorruptible æther of which the heavens are composed shows its eternal character by moving for ever round in a circle of which God, as Prime Mover, occupies the outermost verge. And this metaphysical topography is faithfully followed by Dante, who even improves on it by placing the worst criminals (that is, the rebels and traitors—Satan, with Judas and Brutus and Cassius) in the eternal ice at the very centre of the earth. Such fancies were incompatible with the new astronomy. No longer cold and dead, our earth might henceforth take her place among the stars, animated like them—if animated they were—and suggesting by analogy that they too supported teeming multitudes of reasonable inhabitants.

But the transposition of values did not end here. Aristotle's whole philosophy had been based on a radical antithesis between the sublunary and the superlunary spheres—the world of growth, decay, vicissitude, and the world of everlasting realities. In the sublunary sphere, also, it distinguished sharply between the Forms of things, which were eternal, and the Matter on which they were imposed, an intangible, evanescent thing related to Form as Possibility to Actuality. We know that these two convenient categories are logically independent of the false cosmology that may or may not have suggested their world-wide application. But the immediate effect of having it denied, or even doubted, was greatly to exalt the credit of Matter or Power at the expense of Form or Act.

The first to draw these revolutionary inferences from the Copernican theory was Giordano Bruno (1548–1600). Born at Nola, a south Italian city not far from Naples, Bruno entered the Dominican Order before the age of fifteen, and on that occasion exchanged his baptismal name of Filippo for that by which he has ever since been known. Here he became acquainted with the whole of ancient and medieval philosophy, besides the Copernican astronomy, then not yet condemned by the Church. At the early age of eighteen he first came

into collision with the authorities; and at twenty-eight (1576) [McIntyre, pp. 9–10] he openly questioned the chief characteristic dogmas of Catholicism, was menaced with an action for heresy, and fled from the convent. The pursuit must have been rather perfunctory, for Bruno found himself free to spend two years wandering from one Italian city to another, earning a precarious livelihood by tuition and authorship. Leaving Italy at last, rather from a desire to push his fortunes abroad than from any fear of molestation, and finding France too hot to hold him, he tried Geneva for a little while, but, on being given to understand that he could only stay on the condition of embracing Calvinism, returned to France, where he lived first for two years as Professor of Philosophy at Toulouse, and three more in a somewhat less official position at Paris. Thence, in the train of the French ambassador, he passed to England, where his two years' sojourn seems to have been the happiest and most fruitful period of his restless career. It was cut short by his chief's return to Paris. But the philosopher's fearless advocacy of Copernicanism made that bigoted capital impossible. The truth, however, seems to be that Bruno never could hit it off with anyone or any society; and the next five years, spent in trying to make himself acceptable at one German university after another, are a record of hopeless failure. Finally, in an evil hour, he goes to Venice at the invitation of a young noble, Mocenigo, who, in revenge for disappointed expectations, betrays him to the Inquisition. Questioned about his heresies, Bruno showed perfect willingness to accept all the theological dogmas that he had formerly denied. Whether he withdrew his retractation on being transferred from a Venetian to a Roman prison does not appear, as the Roman depositions are not forthcoming. Neither is it clear why so long a delay as six years (1594–1600) was granted to the philosopher when such short work was made of other heretics. It seems most probable that Bruno, while pliant enough on questions of religious belief, remained inflexible in maintaining the infinity of

inhabited worlds. When the final condemnation was read out, he told the judges that he heard it with less fear than they felt in pronouncing it. In the customary euphemistic terms they had sent him to death by fire. At the stake, when the crucifix was held up to him, he turned away his eyes—with what thoughts we cannot tell. There is a monument to the heroic thinker at Nola, and another in the Campo dei Fiori on the spot where he suffered at Rome, raised against the strongest protests of the ecclesiastical authorities.

The Greek-Italian philosophers—the Pythagoreans and Parmenides—had introduced the idea of finiteness or Limitation as a necessary condition of reality and perfection into thought. From them it passed over to Plato and Aristotle, who made it dominant in the schools. Epicurus and Lucretius had, indeed, carried on the older Ionian tradition of infinite atoms and infinite worlds dispersed through infinite space; but their philosophy was practically atheistic, and the Church condemned it as both heretical and false. Probably the discovery of the earth's globular shape had first suggested the idea of a finite universe to Parmenides; at any rate, the discovery of the earth's motion suggested the idea of an infinite universe to his Greek-souled Italian successor; or rather it was the break-up of Aristotle's spherical world by Copernicanism that threw Bruno back—as he gives us himself to understand—on the older Ionian cosmologies, with their assumption of infinite space and infinite worlds. In this reference Bruno went far beyond Copernicus, and even Kepler; for both had assumed, in deference to current opinion, that the fixed stars were equidistant from the solar system, and formed a single sphere enclosing it on all sides. He, on the contrary, anticipated modern astronomy in conceiving the stars as so many suns dispersed without assignable limits through space, and each surrounded by inhabited planets.

Infinite space had been closely associated by Democritus and Epicurus with infinite atoms; and the next great step taken by Bruno was to rehabilitate atomism

as a necessary concept of modern science. He figured the atoms as very minute spheres of solid earthy matter, forming by their combinations the framework of visible bodies. But their combinations are by no means fortuitous, as Democritus had impiously supposed; nor do they move through an absolute void. All space is filled with an ocean of liquid æther, which is no other than the quintessence of which Aristotle's celestial spheres were composed. Only in Bruno's system it takes the place of that First Matter which is the extreme antithesis of the disembodied Form personified in the Prime Mover, God. And here we come to that reversal of cosmic values brought about by the reversal of the relations between the earth and sun which Copernicus had effected. The primordial Matter, so far from passively receiving the Forms imposed on it from without, has an infinite capacity for evolving Forms from its own bosom; and, so far from being unspiritual, is itself the universal spirit, the creative and animating soul of the world. The First Matter, Form, Energy, Life, and Reason are identified with Nature, Nature with the Universe, and the Universe with God.

So far all is clear, if not convincing. It is otherwise with the theory of Monads. This is only expounded in Bruno's Latin works, for the most part ill-written and hopelessly obscure. It seems possible that by the monads Bruno sometimes means the infinitesimal parts into which the æther of space may conceivably be divided. Each of these possesses consciousness, and therefore may be considered as reflecting and representing the whole universe. A number of monads, or rather a continuous portion of the æther surrounding and interpenetrating a group of atoms, endows them with the forms and qualities of elementary bodies, ascending gradually through vegetal and animal organisations to human beings. But the animating process does not stop with man. The earth, with the other planets, the sun, and all the stars, are also monads on the largest scale, with reasonable souls, just as Aristotle thought. In fact, the old mythology whence

he derived the idea repeats itself in his great enemy Bruno.

Beyond and above all these partial unities is the Monas Monadum—the supreme unity, the infinite God who is the soul of the infinite universe. Doubtless there is here a reminiscence of the Neo-Platonic One, the ineffable Absolute, beyond all existence, yet endowed with the infinite power whence all existence proceeds. Bruno had learned from Cardinal Nicolas of Cusa—a Copernican before Copernicus—to recognise the principle of Heracleitus that opposites are one; and in this instance he applies it with brilliant audacity; for every infinitesimal part of the space-filling æther is no less the soul of the universe than the Monad of Monads itself. And both agree in being non-existent in the sense of being transfinite, since there can be no sum of infinity and no animated mathematical points.

From Anaximander to Plotinus there is hardly a great Greek thinker whose influence cannot be traced in the system of Giordano Bruno. And while he represents the philosophical Renaissance in this eminent degree, he heads the two lines of speculation which, separately or combined, run through the whole history of modern metaphysics—the monistic, and what is now called the pluralistic tendency. With none, except, perhaps, with Hegel, have the two been perfectly balanced; and in Bruno himself the leaning is distinctly towards plurality, his Supreme Monad being a mere survival from the Neo-Platonic One.

Francis Bacon

Francis Bacon (1561–1626) was by profession a lawyer, by taste a scientific inquirer, by character a seeker after wealth and power, by natural genius an immortal master of words. He began life as the friend, adviser, and client of Elizabeth's favourite, the Earl of Essex. When that unfortunate courtier, in disregard of his warnings, rushed into a treasonable enterprise, Bacon appeared as one of the most zealous of the counsel for the prosecution. Strictly speaking,

FRANCIS BACON

(*Copyright B. P. C.*)

this may have been his duty as a loyal subject of the Queen; it was hardly his duty, even on the Queen's commission, after Essex's execution, to assist in the composition of a pamphlet blackening the memory of his former friend and patron. In the next reign Bacon paid assiduous court to James and his favourites. When the first of these, Somerset, fell and was tried on a charge of murder, he conducted the prosecution, and, finding the evidence insufficient, suggested to James that the prisoner should be entrapped into a confession by dangling a false promise of forgiveness before his eyes. Bacon owed his final exaltation to Buckingham, and as Lord Keeper allowed himself to be made the tool of that bad man for the perversion of justice. A suit was brought before him by a young man against a fraudulent trustee (his own uncle) for the restitution of a sum of money. Bacon gave sentence for the plaintiff. Buckingham then intervened with a demand that the case should be retried. "Upon this Bacon saw the parties privately, and, annulling all the deliberate decisions of the Court, compelled the youth to assent to the ceasing of all proceedings, and to accept" a smaller sum than he was entitled to (E. A. Abbott). On another occasion he exercised his judicial authority in a way that did not square with Buckingham's wishes, but quite legitimately and without any consciousness of giving offence; whereupon the insolent favourite addressed him in a letter filled with outrageous abuse, to which Bacon replied in terms of abject submission. This meanness had its reward, for in 1618 the philosopher became Lord Chancellor.

After a three years' tenure Bacon was flung from his high position by a charge of judicial corruption, to the truth of every count in which he confessed. The question is very complicated, obscure, and much controverted, not admitting of discussion within the limits here assigned. On the subject of Bacon's truthfulness, however, a word must be said. The Chancellor admitted having taken presents from suitors, but

denied having ever let his judgments be influenced thereby; and his word seems to be generally accepted as a sufficient exoneration. But its value may be doubted in view of two statements quoted by Dean Church. Of these "one was made in the House of Commons by Sir George Hastings, a member of the House, who had been the channel of Awbry's gift [made to the Chancellor *pendente lite*], that when he had told Bacon that if questioned he must admit it, Bacon's answer was: 'George, if you do so, I must deny it, upon my honour—upon my oath.' The other was that he had given an opinion in favour of some claim of the Masters in Chancery, for which he received £1,200, and with which he said that all the judges agreed—an assertion which all the judges denied. Of these charges there is no contradiction." The denial of Bacon that he ever allowed his judgments to be influenced by bribes, and his assertion that he was the justest judge since his own father, cannot, then, count for much. As to the plea that the justice of his sentences was never challenged, who was to challenge it? The successful suitor would hold his tongue; and the unsuccessful suitor could hardly be expected to complete his own ruin by going to law again on the strength of the Chancellor's condemnation.

Bacon, at any rate, knew quite well that to take presents before judgment was wrong and criminal, as his answer to Egerton sufficiently shows—an answer which also fully disposes of the plea that to take such presents was the common custom of the age. Moreover, had such been the common custom, Bacon might have taken his trial and pleaded it as a sufficient apology or extenuation for his own conduct. This would have been a somewhat more dignified course than the one he actually pursued, which was to plead guilty to all the charges, throwing himself on the mercy of the Lords. It has been suggested that he did this at the desire of his powerful patrons, whose malpractices might have been brought to light by a public investigation. As his punishment was immediately remitted, some arrange-

ment with the King and Buckingham seems probable. But for an innocent man to have saved himself by a false acknowledgment of guilt would, as Macaulay shows, have been still more infamous than to take bribes.

The desperate efforts of some apologists to whitewash Bacon are apparently due to a very exaggerated estimate of his services to mankind. Other critics give themselves the pleasure of painting what has been called a Rembrandt portrait, with noon on the forehead and night at the heart. And a third class argue from a rotten morality to a rotten intelligence. In fact, Bacon as little deserves to be called the wisest and greatest as the meanest of mankind. He really loved humanity, and tried hard to serve it, devoting a truly philosophical intellect to that end. The service was to consist in an immense extension of man's power over nature, to be obtained by a complete knowledge of her secrets; and this knowledge he hoped to win by reforming the methods of scientific investigation. Unfortunately, intellect alone proved unequal to that mighty task. Bacon passes, and not without good grounds, for a great upholder of the principle that truth can only be learned by experience. But his philosophy starts by setting that principle at defiance. He who took all knowledge for his province omitted from his survey the rather important subject of knowledge itself, its limits and its laws. Had his attention been drawn that way, the very first requisite, on empirical principles, would have been to take stock of the leading truths already ascertained. But the enormous vanity of the amateur reformer seems to have persuaded him that these amounted to little or nothing. The later Renaissance was an age of intense scientific activity, conditioned, in the first instance, by a revival of Greek learning. Already before the middle of the sixteenth century great advance had been made in algebra, trigonometry, astronomy, mineralogy, botany, anatomy, and physiology. Before the publication of the *Novum Organum* Napier had invented logarithms, Galileo was reconstituting physics, Gilbert had created the science of magnetism, and Harvey had

discovered the circulation of the blood. These were facts that Bacon took no pains to study; he either ignores or slights or denies the work done by his illustrious predecessors and contemporaries. That he rejected the Copernican theory with scorn is an exaggeration; but he never accepted it, notwithstanding arguments that the best astronomers of his time found convincing; and the longer he lived the more unfavourable became his opinion of its merits. And it is certain that Tycho Brahe's wonderful mass of observations, with the splendid generalisations based on them by Kepler, are never mentioned in his writings. Now what really ruined Aristotelianism was the heliocentric astronomy, as Bruno perfectly saw; and ignorance of this left Bacon after all in the bonds of medieval philosophy.

We have seen in studying Bruno that the very soul of Aristotle's system was his distinction between form and matter, and this distinction Bacon accepted without examination from scholasticism. The purpose of his life was to ascertain by what combination of forms each particular body was constituted, and then, by artificially superinducing them on some portion of matter, to call the desired substance into existence. His celebrated inductive method was devised as a means to that end. To discover the forms " we are instructed first to draw up exhaustive tables of the phenomena and forms under investigation, and then to exclude from our list any ' form ' which does not invariably co-exist with the phenomenon of which *the* form is sought. For example, if we are trying to discover the form of heat it will not do to adduce ' celestial nature '; for, though the sun's light is hot, that of the moon is cold. After a series of such *exclusions*, Bacon believed that a single form would finally remain to be the invariable cause of the phenomenon investigated, and of nothing else " (F. C. S. Schiller).

As Dr. Schiller observes, this *method of exclusions* is not new; nor, indeed, does Bacon claim to have originated it; at least he observes in his *Novum Organum* that it had been already employed by Plato to a certain

extent for the purpose of discussing definitions and ideas. And elsewhere he praises Plato as "a man (and one that surveyed all things from a lofty cliff) for having discerned in his doctrine of Ideas that Forms were the true object of knowledge; howsoever he lost the fruit of this most true opinion by considering and trying to apprehend Forms as absolutely abstracted from matter, whence it came that he turned aside to theological speculations." Bacon must have known that this reproach does not apply to Aristotle; as, indeed, the very schoolmen knew that he did not—except in the single case of God—give Forms a separate existence. But, probably from jealousy, he specially hated Aristotle, and in this particular instance the Stagirite more particularly excited his hostility by identifying Forms with Final Causes. These Bacon rather contemptuously handed over to the sole cognisance of theology as consecrated virgins bearing no fruit. As a point of scientific method this condemnation of teleology is quite unjustified even in the eyes of inquirers who reject the theological argument from design. To a Darwinian, purpose means survival value, and the parts of an organism are so many utilities evolved in the action and reaction between living beings and their environment. But Bacon disliked any theory tending to glorify the existing arrangements of nature as perfect and unalterable achievements, for the good reason that it threatened to discountenance his own scheme for practically creating the world over again with exclusive reference to the good of humanity. Thus in his Utopia, the *New Atlantis*, there are artificial mines, producing artificial metals, plants raised without seeds, contrivances for turning one tree or plant into another, for prolonging the lives of animals after the removal of particular organs, for making "a number of kinds of serpents, worms, flies, fishes of putrefaction; whereof some are advanced to be perfect creatures like beasts or birds"; with flying-machines, submarines, and perpetual motions—in short, a general anticipation of Jules Verne and Mr. H. G. Wells.

Such dreams, however, do not entitle Bacon to be

regarded as a true prophet of modern science and modern mechanical inventions. In themselves his ideas do not go beyond the magic of the Middle Ages, or rather of all ages. The original thing was his Method; and this Method, considered as a means for surprising the secrets of nature, we know to be completely chimerical, because there are no such Forms as he imagined, to be enucleated by induction, with or without the Method of Exclusion. The truth is that the inductive method which he borrowed from Socrates and Plato was originally created by Athenian philosophy for the humanistic studies of law, morality, æsthetics, and psychology. Physical science, on the other hand, should be approached, as the Greeks rightly felt, through the door of mathematics, an instrument of whose potency the great Chancellor notoriously had no conception. Thus his prodigious powers would have been much more usefully devoted to moral philosophy. As it is, the *Essays* alone remain to show what great things he might have done by limiting himself to the subjects with which they deal. The famous logical and physical treatises, the *Novum Organum* and the *De Augmentis*, notwithstanding their wealth and splendour of language, are to us at the present day less living than the fragments of early Greek thought, than most of Plato, than much of Aristotle, than Atomism as expounded by Lucretius.

Macaulay rests his claim of the highest place among philosophers for Bacon not on his inductive theory, to which the historian rightly denies any novelty, but on the new purpose and direction that the search for knowledge is assumed to have received from his teaching. On this view the whole of modern science has been created by the desire to convert nature into an instrument for the satisfaction of human wants—an ambition dating from the publication of the *Novum Organum*. The claim will not stand, for two reasons. The first is that the great movement of modern science began at least half a century before Bacon's birth, growing rapidly during his life, but without his knowledge, and continuing its course without being per-

ceptibly accelerated by his intervention ever since. The one man of science who most commonly passes for his disciple is Robert Boyle (1627–1691). But Boyle did not read the *Novum Organum* before he was thirty, whereas, residing at Florence before fifteen, he received a powerful stimulus from the study of Galileo. And his chemistry was based on the atomic theory which Bacon rejected.

The second reason for not accepting Macaulay's claim is that in modern Europe no less than in ancient Greece the great advances in science have only been made by those who loved knowledge for its own sake, or, if the expression be preferred, simply for the gratification of their intellectual curiosity. No doubt their discoveries have added enormously to the utilities of life; but such advantages have been gained on the sole condition of not making them the primary end in view. The labours of Bacon's own contemporaries, Kepler and Gilbert, have led to the navigation of the sea by lunar distances, and to the various industrial applications of electro-magnetism; but they were undertaken without a dream of these remote results. And in our own day the greatest of scientific triumphs, which is the theory of evolution, was neither worked out with any hope of material benefits to mankind nor has it offered any prospect of them as yet. The same may be said of modern sidereal astronomy. From the humanist point of view it would not be easy to justify the enormous expenditure of energy, money, and time that this science has absorbed. The schoolmen have been much ridiculed for discussing the question how many angels could dance on the point of a needle; but as a purely speculative problem it surely merits as much attention as the total number of the stars, the rates of their velocities, or the law of their distribution through space. A schoolman might even have urged in justification of his curiosity that some of us might feel a reasonable curiosity about the exact size—if size they have—of beings with whom we hope to associate one day; whereas by the confession of the astronomers themselves neither we nor our

descendants can ever hope to verify by direct measurement the precarious guesses of their science in this branch of celestial statics and dynamics.

Thomas Hobbes

It has been shown that one momentous effect of the Copernican astronomy, as interpreted by Giordano Bruno, was to reverse the relative importance ascribed in Aristotle's philosophy to the two great categories of Power and Act, giving to Power a value and dignity of which it had been stripped by the judgment of Plato and Aristotle. Even Epicurus, when he rehabilitated infinite space, had been careful as a moralist to urge the expediency of placing a close limitation on human desires, denouncing the excesses of avarice and ambition more mildly but not less decisively than the contemporary Stoic school. Thus Lucretius describes his master as travelling beyond the flaming walls of the world only that he may bring us back a knowledge of the fixed barrier set by the very laws of existence to our aspirations and hopes.

The classic revival of the Renaissance did not bring back the Greek spirit of moderation. On the contrary, the new world, the new astronomy, the new monarchy, and the new religion combined to create such a sense of Power, in contradistinction to Act, as the world had never before known. For us this new feeling has received its most triumphant artistic expression from Shakespeare and Milton, for France from Rabelais, for Italy from Ariosto and Michelangelo. In philosophy Bacon strikes the same note when he values knowledge as a source of power—knowledge which for Greek philosophy meant rather a lesson in self-restraint. And this idea receives a further development from Bacon's chief successor in English philosophy, Thomas Hobbes (1588–1679), in whose system love of power figures as the very essence of human nature, the self-conscious manifestation of that Motion which is the real substance of the physical world.

Hobbes was a precocious child, and received a good

school training; but the five years he spent at Oxford added nothing to his information, and a continental tour with the young heir of the Cavendishes had no other effect than to convince him of the general contempt into which the scholasticism still taught at Oxford had fallen. On returning to England, he began his studies over again in the Cavendish library, acquiring a thorough familiarity with the classic literature of Greece and Rome, a deep hatred (imbibed through Thucydides) of democracy, and a genuinely antique theory that the State should be supreme in religious no less than in civil matters. Amid these studies Hobbes occasionally enjoyed the society of Bacon, then spending his last years in the retirement of Gorhambury. As secretary and Latin translator he proved serviceable to the ex-Chancellor, but remained quite unaffected by his inductive and experimental philosophy. Indeed, the determining impulse of his speculative activity came from the opposite quarter. Going abroad once more as travelling tutor, at the age of forty, he chanced on a copy of Euclid in a gentleman's library lying open at the famous Forty-Seventh Proposition. His first impulse was to reject the theorem as impossible; but, on going backwards from proposition to proposition, he laid down the book not only convinced, but "in love with geometry."

Beginning so late in life, his ulterior studies led Hobbes into the belief that he had squared the circle, besides the far more pernicious error of applying the deductive method of geometry to the solution of political problems. Could he and Bacon have exchanged philosophies, the brilliant faculties of each might have been employed to better purpose. The categories of Form and Matter, combined with the logic of elimination and tentative generalisation, would have found a fitting field for their application in the familiar facts of human nature. But those facts refused to be treated as so many wheels, pulleys, and cords in a machine for crushing the life out of society and transmitting the will of a single despot unresisted through its whole extent; for such is a faithful picture of what a well-governed community, as

Hobbes conceived it, ought to be. During his second residence abroad he had become acquainted with the physical philosophy of Galileo—the theory that regards every change in the external or phenomenal world as a mere rearrangement of matter and motion, matter being an aggregate of independent molecules held together by mechanical pressure and impact. The component parts of this aggregate become known to us by the impressions their movements produce on our senses, traces of which are preserved in memory, and subsequently recalled by association. Language consists of signs conventionally affixed to such images; only the signs, standing as they do for all objects of a certain sort, have a universal value, not possessed by the original sensations, through which reasoning becomes possible. Hobbes had evidently fallen in love with algebra as well as with geometry; and it is on the type of algebraic reasoning—in other words, on the type of rigorous deduction—that his logic is constructed. And such a view of the way in which knowledge advances seemed amply justified by the scientific triumphs of his age. But his principle that all motion originates in antecedent motion, although plausible in itself and occasionally revived by ingenious speculators, has not been verified by modern science. Gravitation, cohesion, and chemical affinity have, so far, to be accepted as facts not resoluble into more general facts. Hobbes died before the great discoveries of Newton which first turned away men's minds from the purely mechanical interpretation of energy.

That mechanical interpretation led our philosopher to reject Aristotle's notion of sociality as an essentially human characteristic. To him this seemed a mere occult quality, the substitution of a word for an explanation. The counter-view put forth in his great work, *Leviathan*, is commonly called atomistic. But it would be gross flattery to compare the ultimate elements of society, as Hobbes conceived them, to the molecules of modern science, which attract as well as repel each other; or even with the Democritean atoms, which are at least neutral. According to him, the tendency to self-

preservation, shared by men with all other beings, takes the form of an insatiable appetite for power, leading each individual to pursue his own aggrandisement at the cost of any loss or suffering to the rest. And he tries to prove the permanence of this impulse by referring to the precautions against robbery taken by householders and travellers. Aristotle had much more justly mentioned the kindnesses shown to travellers as a proof of how widely goodwill is diffused. Our countryman, with all his acuteness, strangely ignores the necessity as a matter of prudence of going armed and locking the door at night, even if the robbers only amounted to one in a thousand of the population. Modern researches have shown that there are very primitive societies where the assumed war of all against each is unknown, predatory conflicts being a mark of more advanced civilisation, and the cause rather than the effect of anti-social impulses.

Granting an original state of anarchy and internecine hostility, there is, according to Hobbes, only one way out of it, which is a joint resolution of the whole community to surrender their rights of individual sovereignty into the hands of one man, who thenceforth becomes absolute ruler of the State, with authority to defend its citizens against mutual aggressions, and the whole community against attacks from a foreign Power. This agreement constitutes the famous Social Contract, of which so much was to be heard during the next century and a-half. It holds as between the citizens themselves, but not between the subjects and their sovereign, for that would be admitting a responsibility which there is no power to enforce. And anyone refusing to obey the sovereign justly forfeits his life; for he thereby returns to the State of Nature, where any man that likes may kill his neighbour if he can.

All this theory of an original institution of the State by contract impresses a modern reader as utterly unhistorical. But its value, if any, does not depend on its historical truth. Even if the remote ancestors of the seventeenth-century Europeans had surrendered all

their individual rights, with certain trifling exceptions, into the hands of an autocrat, no sophistry could show that their mutual engagements were binding on the subjects of Charles I. and Louis XIV. And it is really on expediency, understood in the largest sense, that the claims of the New Monarchy are based by Hobbes. What he maintains is that nothing short of a despotic government exercised by one man can save society from relapsing into chaos. But even under this amended form the theory remains amenable to historical criticism. Had Hobbes pursued his studies beyond Thucydides, he would have found that other polities besides the Athenian democracy broke down at the hour of trial. Above all, Roman Imperialism, which seems to have been his ideal, failed to secure its subjects either against internal disorder or against foreign invasion.

Democracy, however, was not the sole or the worst enemy dreaded by the author of *Leviathan* as a competitor with his "mortal god." In the frontispiece of that work the deified monarch who holds the sword erect with his right hand grasps the crozier with his left, thus typifying the union of the spiritual and temporal powers in the same person. The publicists of the Italian Renaissance, with their classical ideals, had, indeed, been as anti-papal as the Protestants; and the political disorders fomented by the agents of the Catholic reaction during the last hundred years had given Hobbes an additional reason for perpetuating their point of view. Meanwhile another menace to public order had presented itself from an opposite quarter. Calvinism had created a new spiritual power based on the free individual interpretation of Scripture, in close alliance with the alleged rights of conscience and with the spirit of republican liberty. Each creed in turn had attacked the Stuart monarchy, and the second had just effected its overthrow. Therefore, to save the State it was necessary that religious creeds, no less than codes of conduct, should be dictated by the secular authority, enslaving men's minds as well as their bodies.

By the dialectic irony of the speculative movement,

this attempt to fetter opinion was turned into an instrument for its more complete emancipation. In order to discredit the pretensions of the religious zealots, Hobbes made a series of attacks on the foundations of their faith, mostly by way of suggestion and innuendo—no more being possible under the conditions then obtaining —but with such effect that, according to Macaulay, " for many years the *Leviathan* was the gospel of cold-blooded and hard-headed unbelievers." That one who made religious belief a matter to be fixed by legislation could be in any sense a Christian seems most unlikely. He professed, with what sincerity we know not, to regard the existence of God as something only a fool could deny. But his philosophy from beginning to end forms a rigorously-thought-out system of materialism which any atheist, if otherwise it satisfied him, might without inconsistency accept.

On the meeting of the Long Parliament, Hobbes again left England for the Continent, where he remained for eleven years. But his principles were no more to the taste of the exiled royalists than of their opponents. He therefore returned once more to England, made his submission to the Parliament, and spent the rest of his days, practically unmolested by either party, under the Commonwealth and the Restoration until his death in 1679 at the age of ninety-one.

It may be said of Hobbes, as of Bacon, that the intellect at work is so amazing and the mass of literary performance so imposing that the illusions of historians about the value of their contributions to the progress of thought are excusable. Nevertheless, it cannot be too distinctly stated that the current or academic estimate of these great men as having effected a revolution in physical and moral science is wrong. They stand as much apart from the true line of evolution as do the gigantic saurians of a remote geological period whose remains excite our wonder in museums of natural history. Their systems proved as futile as the monarchies of Philip II. and of Louis XIV. Bacon's dreams are no more related to the coming victories of

science than Raleigh's El Dorado was to the future colonial empire of Britain. Hobbes had better fortune than Strafford, in so far as he kept his head on his shoulders; but the logic of his absolutism shrivelled up under the sun of English liberty like the great Minister's policy of Thorough.

The theory of a Social Contract is a speculative idea of the highest practical importance. But the idea of contract as the foundation of morals goes back to Epicurus, and it is assumed in a more developed form by Hooker's *Ecclesiastical Polity*. Its potency as a revolutionary instrument comes from the reinterpretations of Locke and Rousseau, which run directly counter to the assumptions of the *Leviathan*.

Hobbes shares with Bacon the belief that all knowledge comes from experience, besides making it clearer than his predecessor that experience of the world comes through external sense alone. Here also there can be no claim to originality, for more than one school of Greek philosophy had said the same. As an element of subsequent thought, more importance belongs to the idea of Power, which was to receive its full development from Spinoza; but only in association with other ideas derived from the philosopher whom we have next to examine, the founder of modern metaphysics, Descartes.

CHAPTER II

THE METAPHYSICIANS

Descartes, Malebranche, Spinoza, Leibniz

René Descartes (1596–1650) was a Frenchman, born in Touraine, and belonging by family to the inferior nobility. Educated at the Jesuit college of La Flèche, he early acquired a distaste for the scholastic philosophy, or at least for its details; the theology of scholasticism, as we shall see, left a deep impression on him through life. On leaving college he took up mathematics, varied by a short plunge into the dissipations of Paris. Some years of military service as a volunteer with the Catholic armies at the beginning of the Thirty Years' War enabled him to travel and see the world. Returning to Paris, he resumed his studies, but found them seriously interrupted by the tactless bores who, as we know from Molière's amusing comedy *Les Fâcheux*, long continued to infest French society. To escape their assiduities Descartes, who prized solitude before all things, fled the country. The inheritance of an independent income enabled the philosopher to live where he liked; and Holland became, with a few interruptions, his chosen residence for the next twenty years (1629–49). Even here frequent changes of residence and occasional concealment of his address were necessary in order to elude the visits of importunate admirers. With all his unsociability there seems to have been something singularly magnetic about the personality of Descartes; yet he only fell in with one congenial spirit, the Princess Elizabeth, daughter of the unfortunate Winter King and granddaughter of our James I. Possess-

ing to the fullest extent the intellectual brilliancy and the incomparable charm of the Stuart family, this great lady impressed the lonely thinker as the only person who ever understood his philosophy.

Another royal friendship brought his career to an untimely end. Queen Christina of Sweden, the gifted and restless daughter of Gustavus Adolphus, heard of Descartes, and invited him to her Court. On his arrival she sent for the pilot who had brought the illustrious stranger to Stockholm and questioned him about his passenger. "Madame," he replied, "it is not a man whom I conducted to your Majesty, but a demi-god. He taught me more in three weeks of the science of seamanship and of winds and navigation than I had learned in the sixty years I had been at sea" (Miss E. S. Haldane's *Life of René Descartes*). The Queen fully came up to the expectations of her visitor, in whose eyes she had no fault but an unfortunate tendency to waste her time on learning Greek. Besides her other merits, she possessed "a sweetness and goodness which made men devoted to her service." It soon appeared that, as with others of the same rank, this was only the veneer of a heartless selfishness. Christina, who was an early riser, required hsi attendance in her library to give her lessons in philosophy at five o'clock in the morning. Descartes was by habit a very late riser. Besides, he had not even a lodging in the royal palace, but was staying at the French Embassy, and in going there "had to pass over a long bridge which was always bitterly cold." The cold killed him. He had arrived at Stockholm in October, and meant to leave in January; but remained at the urgent request of the Queen, who, however, made no change in the hour of their interviews, although that winter was one of the severest on record. At the beginning of February, 1650, he fell ill and died of inflammation of the lungs on the 11th, in the fifty-fourth year of his age.

Descartes had the physical courage which Hobbes lacked; but he seems, like Bacon, to have been a moral coward. The most striking instance of this is that, on hearing of Galileo's condemnation for teaching the

heliocentric astronomy, he withheld from publication and had even thoughts of destroying a work of his own in which the same doctrine was maintained. This was at a time when he was living in a country where there could be no question of personal danger from the Inquisition. But something of the same weakness shows itself in his running away from France to escape those intrusions on his studious retirement which one would think might have been checked by letting it be known with sufficient firmness that his hours could not be wasted on idle conversation. And we have seen how at last his life was lost for no better reason than the dread of giving offence to Queen Christina.

It seems strange that a character so unheroic should figure among the great emancipators of human thought. In fact, Descartes's services to liberty have been much exaggerated. His intellectual fame rests on three foundations. Of these the most indubitable is the creation of analytical geometry, the starting-point of modern mathematics. The value of his contributions to physics has been much disputed; but, on the whole, expert opinion seems to have decided that what was new in them was not true, and what was true was not new. However, the place we must assign Descartes in the history of philosophy can only be determined by our opinion of his metaphysics.

As a philosopher Descartes has, to begin with, the merit of exemplary clearness. The fault is not with him if we cannot tell what he thought and how he came to think it. The classic *Discourse on Method* (1637) relates his mental history in a style of almost touching simplicity. It appears that from an early age truth had been his paramount object, not as with Bacon and Hobbes for its utility, but for its own sake. In search of this ideal he read widely, but without finding what he wanted. The great and famous works of literature might entertain or dazzle; they could not convince. The philosophers professed to teach truth; their endless disputes showed that they had not found it. Mathematics, on the other hand, presented a pleasing

RENÉ DESCARTES

picture of demonstrated certainty, but a certainty that seemed to be prized only as a sure foundation for the mechanical arts. Wearily throwing his books aside, the young man then applied himself to the great book of life, mingling with all sorts and conditions of men to hear what they had to say about the prime interests of existence. But the same vanity and vexation of spirit followed him here. Men were no more agreed among themselves than were the authorities of his college days. The truths of religion seemed, indeed, to offer a safe refuge; but they were an exception that proved the rule; being, as Descartes observes, a supernatural revelation, not the natural knowledge that he wanted.

The conflict of authorities had at least one good result, which was to discredit the very notion of authority, thus throwing the inquirer back on his own reason as the sole remaining resource. And as mathematics seemed, so far, to be the only satisfactory science, the most reasonable course was to give a wider extension and application to the methods of algebra and geometry. Four fundamental rules were thus obtained: (1) To admit nothing as true that was not evidently so; (2) to analyse every problem into as many distinct questions as the nature of the subject required; (3) to ascend gradually from the simplest to the most complex subjects; and (4) to be sure that his enumerations and surveys were so exhaustive and complete as to let no essential element of the question escape.

The rules as they stand are ill-arranged, vague, and imperfect. The last should come first and the first last. The notions of simplicity, complexity, and truth are neither illustrated nor defined. And no pains are taken to discriminate judgments from concepts. It may be said that the method worked well; at least Descartes tells us that with the help of his rules he made rapid progress in the solution of mathematical problems. We may believe in his success without admitting that an inferior genius could have achieved the same results by the same means. The real point is to ascertain whether the method, whatever its utility in mathematics, could

be advantageously applied to metaphysics. And the answer seems to be that as manipulated by its author the new system led to nothing but hopeless fallacies.

After reserving a provisional assent to the customs of the country where he happens to be residing and to the creed of the Roman Church, Descartes begins by calling in question the whole mass of beliefs he has hitherto accepted, including the reality of the external world. But the very act of doubt implies the existence of the doubter himself. I think, therefore I am. It has been supposed that the initial affirmation of this self-evident principle implies that Descartes identified Being with Thought. He did no such thing. No more is meant, to begin with, than that, whatever else is or is not, I the thinker certainly am. This is no great discovery; the interesting thing is to find out what it implies. A good deal according to Descartes. First he infers that, since the act of thinking assures him of his existence, therefore he is a substance the whole essence of which consists in thought, which is independent of place and of any material object—in short, an immaterial soul, entirely distinct from the body, easier to know, and capable of existing without it. Here the confusion of conception with judgment is apparent, and it leads to a confusion of our thoughts about reality with the realities themselves. And Descartes carries this loose reasoning a step further by going on to argue that, as the certainty of his own existence has no other guarantee than the clearness with which it is inferred from the fact of his thinking, it must therefore be a safe rule to conclude that whatever things we conceive very clearly and distinctly are all true.

In his other great philosophical work, the *Meditations*, Descartes sets out at greater length, but with less clearness, his arguments for the immateriality of the soul. Here it is fully admitted that, besides thinking, self-consciousness covers the functions of perceiving, feeling, desiring, and willing; nor does it seem to be pretended that these experiences are reducible to forms of thought. But it is claimed that they depend on thought in the sense that without thought one would not be aware of

their existence; whereas it can easily be conceived without them. A little more introspection would show that the second part of the assertion is not true; for there is no thought without words, and no words, however inaudibly articulated, without a number of tactual and muscular sensations, nor even without a series of distinct volitions.

Another noticeable point is that, so far from obeying the methodical rule to proceed from the simple to the complex, Descartes does just the contrary. Starting with the whole complex content of consciousness, he works down by a series of arbitrary rejections to what, according to him, is the simple fact of immaterial thought. Let us see how it fares with his attempt to reconstruct knowledge on that elementary basis.

Returning to his postulate of universal doubt, our philosopher argues from this to an imperfection in his nature, and thence to the idea of a perfect being. The reasoning is most slipshod; for, even admitting that knowledge is preferable to ignorance—which has not been proved—it does not follow that the dogmatist is more perfect than the doubter. Indeed, one might infer the contrary from Descartes's having passed with progressive reflection from the one stage to the other. Overlooking the paralogism, let us grant that he has the idea of a perfect being, and go on to the question of how he came to possess it. One might suggest that the consciousness of perfect self-knowledge, combined with the wish to know more of other subjects, would be sufficient to create an ideal of omniscience, and, proceeding in like manner from a comparison of wants with their satisfactions, to enlarge this ideal into the notion of infinite perfection all round. Descartes, however, is not really out for truth—at least, not in metaphysics; he is out for a justification of what the Jesuits had taught him at La Flèche, and no Jesuit casuistry could be more sophistical than the logic he finds good enough for the purpose. To argue, as he does, that the idea of a perfect being, in his mind, can be explained only by its proceeding from such a being as its creator is already sufficiently auda-

cious. But this feat is far surpassed by his famous ontological proof of Theism. A triangle, he tells us, need not necessarily exist; but, assuming there to be one, its three angles must be equal to two right angles. With God, on the other hand, to be conceived is to be; for, existence being a perfection, it follows, from the idea of a perfect Being, that he must exist. The answer is more clear and distinct than any of Descartes's demonstrations. Perfection is affirmed of existing or of imaginary subjects, but existence is not a perfection in itself.

A third argument for Theism remains to be considered. Descartes asks how he came to exist. Not by his own act; for on that hypothesis he would have given himself all the perfections that now he lacks; nor from any other imperfect cause, for that would be to repeat the difficulty, not to solve it. Besides, the simple continuance of his existence from moment to moment needs an explanation. For time consists of an infinity of parts, none depending in any way on the others; so that my having been a little while ago is no reason why I should be now, unless there is some power by which I am created anew. Here we must observe that Descartes is playing fast and loose with the law of causation. By what he calls the light of nature—in other words, the light of Greek philosophy—things can no more pass into nothing than they can come out of it. Moreover, the difficulty is the same for my supposed Creator as for myself. We are told that thought is a necessary perfection of the divine nature. But thinking implies time; therefore God also exists from moment to moment. How, then, can he recover his being any more than we can? The answer, of course, would be: because he is perfect, and perfection involves existence. Thus the argument from causation throws us back on the so-called ontological argument, whose futility has already been shown.

This very idea of perfection involves us in fresh difficulties with the law of causation. A perfect Being might be expected to make perfect creatures—which by hypothesis we are not. Descartes quite sees this, and

only escapes by a verbal quibble. Our imperfections, he says, come from the share that Nothingness has in our nature. Once allow so much to the creative power of zero, and God seems to be a rather gratuitous postulate.

After proving to his own satisfaction the existence of the soul and of God, Descartes returns to the starting-point of his whole inquiry—that is, the reality of the material world and of its laws. And now his theology supplies him with a short and easy method for getting rid of the sceptical doubts that had troubled him at first. He has a clear and distinct idea of his own body and of other bodies surrounding it on all sides as extended substances communicating movements to one another. And he has a tendency to accept whatever is clearly and distinctly conceived by him as true. But to suppose that God created that tendency with the intention of deceiving him would argue a want of veracity in the divine nature incompatible with its perfection. Such reasoning obviously ignores the alternative that God might be deceiving us for our good. Or rather what we call truth might not be an insight into the nature of things in themselves, but a correct judgment of antecedents and consequents. Our consciousness would then be a vast sensori-motor machinery adjusted to secure the maintenance and perfection of life.

Descartes, as a mathematician, places the essence of Matter or Body in extension. Here he agrees with another mathematical philosopher, Plato, who says the same in his *Timæus*. So far the coincidence might be accidental; but when we find that the Frenchman, like the Greek, conceives his materialised space as being originally divided into triangular bodies, the evidence of unacknowledged borrowing seems irresistible—the more so that Huyghens mentions this as customary with Descartes.

The great author of the *Method* and the *Meditations*—for, after every critical deduction, his greatness as a thinker remains undoubted—contributed nothing to ethics. Here he is content to reaffirm the general conclusions of Greek philosophy, the necessary superiority

of mind to matter, of the soul to the body, of spirit to sense. He accepts free-will from Aristotle without any attempt to reconcile it with the rigid determinism of his own mechanical naturalism. At the same time there is a remarkable anticipation of modern psychology in his doctrine of intellectual assent as an act of the will. When our judgments go beyond what is guaranteed by a clear and distinct perception of their truth there is a possibility of error, and then the error is our own fault, the precipitate conclusion having been a voluntary act. Thus human free-will intervenes to clear God of all responsibility for our delusions as well as for our crimes.

Malebranche

Pascal, we are told, could not forgive Descartes for limiting God's action on the world to the " initial fillip " by which the process of evolution was started. Nevertheless, Pascal's friends, the Jansenists, were content to adopt Cartesianism as their religious philosophy, and his epigram certainly does not apply to the next distinguished Cartesian, Arnold Geulincx (1625–1669), a Fleming of Antwerp. Unfortunate in his life, this eminent teacher has of all original thinkers received the least credit for his services to metaphysics from posterity, being, outside a small circle of students, still utterly unknown to fame. Geulincx is the author of a theory called Occasionalism. Descartes had represented mind, which he identified with Thought, and matter, which he identified with Extension, as two antithetical substances with not a note in common. Nevertheless, he supposed that communications between them took place through a part of the brain called the pineal body. Geulincx cut through even this narrow isthmus, denying the possibility of any machinery for transmitting sensible images from the material world to our consciousness, or volitions from the mind to the limbs. How, then, were the facts to be explained? According to him, by the intervention of God. When the so-called organs of sense are acted on by vibrations

from the external world, or when a particular movement is willed by the mind, the corresponding mental and material modifications are miraculously produced by the exercise of his omnipotence; and it is because these events occur *on occasion* of signals of which they are not the effects but the consequents that the theory has received the name of Occasionalism.

The theory, as Geulincx formulated it, seems at first sight simply grotesque; and from a religious point of view it has the additional drawback of making God the immediate executor of every crime committed by man. Nevertheless, it is merely the logical application of a principle subsequently admitted by profound thinkers of the most opposing schools—namely, that consciousness cannot produce or transmit energy, combined with the belief in a God who does not exist for nothing. Even past the middle of the nineteenth century many English and French naturalists were persuaded that animal species to the number of 300,000 represented as many distinct creative acts; and at least one astronomer, who was also a philosopher, declared that the ultimate atoms of matter, running up to an immeasurably higher figure, " bore the stamp of the manufactured article."

The capture of Cartesianism by theology was completed by Nicolas Malebranche (1638–1715). This accomplished writer and thinker, dedicated by physical infirmity to a contemplative life, entered the Oratory at an early age, and remained in it until his death. Coming across a copy of Descartes's *Treatise on Man* at twenty-six, he at once became a convert to the new philosophy, and devoted the next ten years to its exclusive study. At the end of that period he published his masterpiece, *On the Investigation of Truth* (*De la Recherche de la Vérité*, 1674), which at once won him an enormous reputation. It was followed by other works of less importance. The legend that Malebranche's end was hastened by an argument with Berkeley has been disproved.

Without acknowledging the obligation, Malebranche accepts the conclusions of Geulincx to the extent of

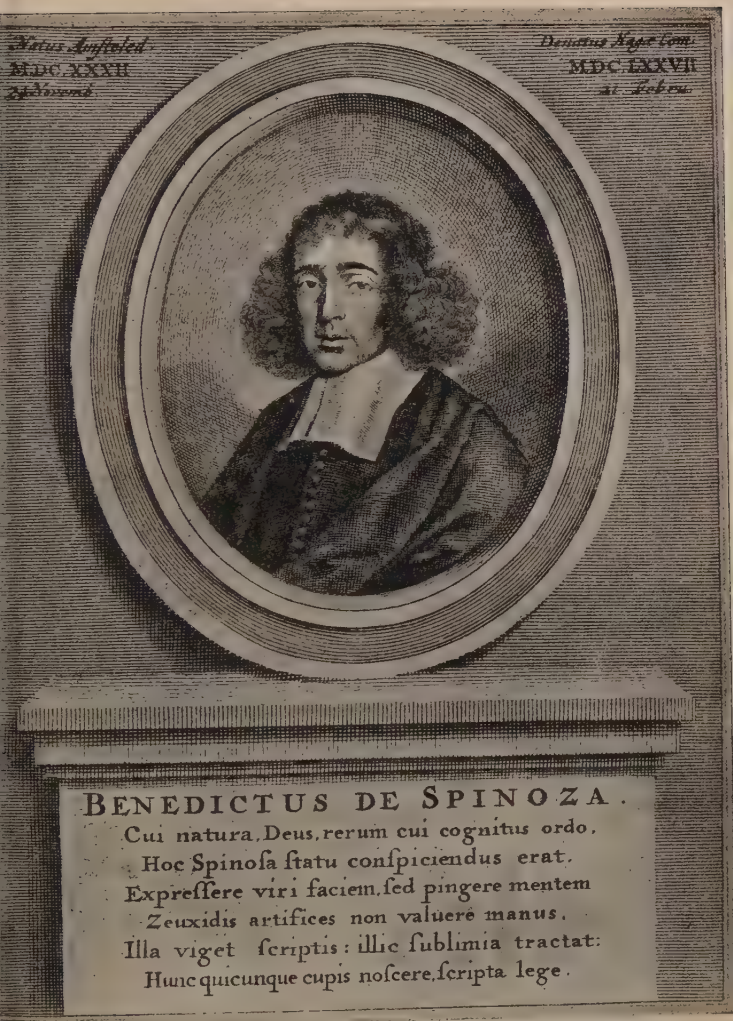
denying the possibility of any communication between mind and matter. Indeed, he goes further, and denies that one portion of matter can act on another. But his real advance on Occasionalism lies in the question: How, then, can we know the laws of the material universe, or even that there is such a thing as matter at all? Once more God intervenes to solve the difficulty, but after a fashion much less crude than the miraculous apparatus of Geulincx. Introspection assures us that we are thinking things, and that our minds are stored with idea, including the idea of God the all-perfect Being, and the idea of Extension with all the mathematical and physical truths logically deducible therefrom. We did not make this idea, therefore it comes from God, was in God's mind before it was in ours. Following Plotinus, Malebranche calls this idea intelligible Extension. It is the archetype of our material world. The same is true of all other clear and distinct ideas; they are, as Platonism teaches, of divine origin. But is it necessary to suppose that the ideal contents of each separate soul were placed in it at birth by the Creator? Surely the law of parsimony forbids. It is a simpler and easier explanation to suppose that the divine archetypal ideas alone exist, and that we apprehend them by a mystical communion with the divine consciousness; that, in short, we see all things in God. And in order to make this vision possible we must, as the Apostle says, live, move, and have our being in God. As a mathematician would say, God must be the *locus*, the place of souls.

There is unquestionably something grandiose about this theory, which, however, has the defect in orthodox opinion of logically leading to the Panthesim, held in abhorrence by Malebranche, of his greater contemporary Spinoza. And it is a suggestive circumstance that the very similar philosophy of the Eternal Consciousness held by our countryman T. H. Green has been shown by the criticism of Henry Sidgwick to exclude the personality of God.

Spinoza

With the philosopher whom I have just named we come for the first time in modern history to a figure recalling in its sustained equality of intellectual and moral excellence the most heroic figures of Hellenic thought. Giordano Bruno we may, indeed, pronounce, like Lucan or Cranmer, " by his death approved," but his submission at Venice has to be set against his martyrdom at Rome; and if there is nothing very censurable in his career as a wandering teacher, there is also nothing worthy of any particular respect. Differences of environment and heredity may no doubt be invoked to account for the difference of character; and in the philosophy about to be considered the determining influence of such causes for the first time finds due recognition; but on the same principle our ethical judgments also are determined by the very constitution of things.

Baruch de Spinoza (1632–1677), born at Amsterdam, belonged to a family of Portuguese Jews, exiled on account of their Hebrew faith, in which also he was brought up. Soon after reaching manhood he fell away from the synagogue, preferring to share in the religious exercises of certain latitudinarian Christian sects. Spies were set to report his conversation, which soon supplied evidence of sufficiently heterodox opinions. A sentence of formal excommunication followed; but modern research has discredited the story of an attempt to assassinate him made by an emissary of the synagogue. After successfully resisting the claim of his sister and his brother-in-law to shut out the apostate from his share of the paternal inheritance, Spinoza surrendered the disputed property, but henceforth broke off all communication with his family. Subsequently he refused an offer of 2,000 florins, made by a wealthy friend and admirer, Simon de Vries, as also a proposal from the same friend to leave him his whole fortune, insisting that it should go to the legal heir, Simon's brother Isaac. The latter, on succeeding, wished to settle an annual pension of 500 florins on



Reproduced (by permission) from *Spinoza's Short Treatise on God, Man, and his Well-being*, by Professor A. Wolf (A. & C. Black)

Spinoza, but the philosopher would accept no more than 300. Books were his only luxury, material wants being supplied by polishing glass lenses, an art in which he attained considerable proficiency. But it was an unhealthy occupation, and probably contributed to his death by consumption.

Democracy was then and long afterwards associated with fanaticism and intolerance rather than with free-thought in religion. The liberal party in Dutch politics was the aristocratic party. Spinoza sympathised with its leader, John de Witt; he wept bitter tears over the great statesman's murder; and only the urgent remonstrances of his friends, who knew what danger would be incurred by such a step, prevented him from placarding the walls of the Hague, where he then resided, with an address reproaching the infuriated people for their crime.

In 1673 the enlightened ruler of the Palatinate, a brother of Descartes's Princess Elizabeth, offered Spinoza a professorship at Heidelberg, with full liberty to teach his philosophy. But the pantheistic recluse wisely refused it. Even at the present day such teaching as his would meet with little mercy at Berlin, Cambridge, or Edinburgh. As it was, we have reason to believe that even in free Holland only a premature death saved him from a prosecution for blasphemy, and his great work the *Ethica* could not with safety be published during his lifetime. It appeared anonymously among his posthumous works in November, 1677, without the name of the true place of publication on the title-page.

Spinoza was for his time no less daring as a Biblical critic than as a metaphysician. His celebrated *Tractatus Theologico-Politicus* has for its primary purpose to vindicate the freedom of scientific thought against ecclesiastical interference. And this he does by drawing a trenchant line of demarcation between the respective offices of religion and of philosophy. The business of the one is to form the character and to purify the heart, of the other to guide and inform the intellect. When

religion undertakes to teach scientific truth the very ends for which it exists are defeated. When theological dogmatism gains control of the Churches the worst passions are developed under its influence. Instead of becoming lowly and charitable, men become disturbers of public order, grasping intriguers, bitter and censorious persecutors. The claims of theology to dictate our intellectual beliefs are not only mischievous, but totally invalid. They rest on the authority of the Bible as a revelation of God's will. But no such supernatural revelation ever was or could be given. Such violation of the order of nature as the miracles recorded in Scripture history would be impossible. And the narratives recording them are discredited by the criticism which shows that various books of the Old Testament were not written by the men whose names they bear, but long after their time. As a Hebrew scholar Spinoza discusses the Jewish Scriptures in some detail, showing in particular that the Pentateuch is of a later date than Moses. His limited knowledge of Greek is offered as a reason for not handling the New Testament with equal freedom; but some contradictions are indicated as disallowing the infallibility claimed for it. At the same time the perfection of Christ's character is fully acknowledged and accepted as a moral revelation of God.

Spinoza shared to the fullest extent, and even went beyond, Descartes's ambition to reconstruct philosophy on a mathematical basis. The idea may have come to him from the French thinker, but it is actually of much older origin, being derived from Plato, the leading spirit of the Renaissance, as Aristotle had been the oracle of the later Middle Ages. Now Plato's ideal had been to construct a philosophy transcending the assumptions—or, as he calls them, the hypotheses—of geometry as much as those assumptions transcend the demonstrations of geometry; and this also was the ideal of Spinoza. Descartes had been content to accept from tradition his ultimate realities, Thought, Extension, and God, without showing that they must necessarily exist; for his proof of God's existence starts from an idea in the

human mind, while Thought and Extension are not deduced at all.

To appreciate the work of the Hebrew philosopher, of the lonely muser, bred in the religion of Jahveh—a name traditionally interpreted as the very expression of absolute self-existence—we must conceive him as starting with a question deeper even than the Cartesian doubt, asking not How can I know what is? but Why should there *be* anything whatever? And the answer, divested of scholastic terminology, is: Because it is inconceivable that there should be nothing, and if there is anything there must be everything. This universe of things, which must also be everlasting, Spinoza calls God.

The philosophy or religion—for it is both—which identifies God with the totality of existence was of long standing in Greece, and had been elaborated in systematic detail by the Stoics. It has been known for the last two centuries under the name of Pantheism, a word of Greek etymology, but not a creation of the Greeks themselves, and, indeed, of more modern date than Spinoza. Historians always speak of him as a Pantheist, and there is no reason to think that he would have objected to the designation had it been current during his lifetime. But there are important points of distinction between him and those who preceded or followed him in the same speculative direction. The Stoics differed from him in being materialists. To them reality and corporeality were convertible terms. It seems likely that Hobbes and his contemporary, the atomist Gassendi, were of the same opinion, although they did not say it in so many words. But Descartes was a strong spiritualist; and Spinoza followed the master's lead so far, at any rate, as to give Thought at least equal reality with matter, which he also identified with Extension. It has been seen what difficulties were created by the radical Cartesian antithesis between Thought and Extension, or—to call them by their more familiar names—mind and body, when taken together with the intimate association shown by experience to

obtain between them; and also how Geulincx and Malebranche were led on by the very spirit of philosophy itself almost to submerge the two disparate substances in the all-absorbing agency of God. The obvious course, then, for Spinoza, being unfettered by the obligations of any Christian creed, was to take the last remaining step, to resolve the dualism of Thought and Extension into the unity of the divine substance.

In fact, the Hebrew philosopher does this, declaring boldly that Thought and Extension are one and the same thing—which thing is God, the only true reality of which they are merely appearances. And, so far, he has had many followers who strive to harmonise the opposition of what we now call subject and object in the synthesis of the All-One. But he goes beyond this, expanding the conception of God—or the Absolute—to a degree undreamed of by any religion or philosophy formulated before or after his time. God, Spinoza tells us, is "a Substance consisting of infinite attributes, each of which expresses his absolute and eternal essence." But of these attributes two alone, Thought and Extension, are known to us at present, so that our ignorance infinitely exceeds our knowledge of reality. His extant writings do not explain by what process he mounted to this, the most dizzy height of speculation ever attained by man; but, in the absence of definite information, some guiding considerations suggest themselves as probable.

Bruno, whom Spinoza is held, on strong grounds, to have read, identified God with the supreme unifying principle of a universe extending through infinite space. Descartes, on the other hand, conceived God as a thinking rather than as an extended substance. But his school tended, as we saw, to conceive God as mediating between mind and body in a way that suggested their real union through his power. Furthermore, the habit common to all Cartesians of regarding geometrical reasoning as the most perfect form of thought inevitably led to the conception of thought as accompanying space wherever it went—in fact, as stretching like it to infinity. Again, from the Cartesian point of view, that Extension

which is the very essence of the material world, while it covers space, is more than mere space; it includes not only co-existence, but succession or time—that is, scientifically speaking, the eternal sequence of physical causes; or, theologically speaking, the creative activity of God. And reason or thought had also since Aristotle been more or less identified with the law of universal causation no less than with the laws of geometry.

Thus, then, the ground was prepared for Spinoza, as a pantheistic monist, to conceive God under the two attributes of Extension and Thought, each in its own way disclosing his essence as no other than infinite Power. But why should God have, or consist of, two attributes and no more? There is a good reason why *we* should know only those two. It is that we are ourselves modes of Thought united to modes of Extension, of which our thoughts are the revealing ideas. But it would be gross anthropomorphism to impose the limitations of our knowledge on the infinite being of God, manifested through those very attributes as unlimited Power. The infinite of co-existence, which is space, the infinite of causal procession, which is time, suggest an infinity of unimaginable but not inconceivable attributes of which the one divine substance consists. And here at last we get the explanation of why there should be such things as Thought and Extension at all. They are there simply because everything is. If I grant anything—and I must, at least, grant myself—I grant existence, which, having nothing outside itself, must fill up all the possibilities of being which only exclude the self-contradictory from their domain. Thus, the philosophy of Spinoza neither obliges him to believe in the monsters of mythology nor in the miracles of Scripture, nor in the dogmas of Catholic theology, nor even in free-will; nor, again, would it oblige him to reject by anticipation the marvels of modern science. For, according to him, the impossibility of really incredible things could be deduced with the certainty of mathematical demonstration from the law of contradiction itself.

Hegel has given the name of acosmism, or negation of the world, to this form of pantheism, interpreting it as a doctrine that absorbs all concrete reality and individuality in the absolute unity of the divine essence. No misconception could be more complete. Differentiation is the very soul of Spinoza's system. It is, indeed, more open to the charge of excessive dispersion than of excessive centralisation. Power, which is God's essence, means no more than the realisation through all eternity of all possibilities of existence, with no end or aim but just the process of infinite production itself. There is, indeed, a nominal identification between the material processes of Extension and the ideal processes of Thought. But this amounts to no more than a re-statement in abstract terms of the empirical truth that there is a close connection between body and mind. Like the double-aspect theory, the parallelistic theory, the materialistic theory, the theory of interaction, and the theory of more or less complete reciprocal independence, it is a mere verbalism, telling us nothing that we did not know before. Or, if there is more, it consists of the very questionable assumption that body and mind must come in somewhere to fill up what would otherwise be blank possibilities of existence. And this, like other metaphysical assumptions, is an illegitimate generalisation from experience. The ideas of space and time as filled-up *continua* supply the model on which the whole universe must be constructed. Like them, it must be infinite and eternal, but, so to speak, at a higher power; as in them, every part must be determined by the position of all other parts, with the determination put at a logical instead of at a descriptive value; corresponding to their infinitely varied differentiation of position and quantity, there must be an infinite differentiation of concrete content; and, finally, the laws of the universe must be demonstrable by the same *à priori* mathematical method that has been so successfully applied to continuous quantity.

The geometrical form into which Spinoza has thrown his philosophy, unfortunately, restricts the number of readers—always rather small—that it might otherwise

attract. People feel themselves mystified, wearied, and cheated by the appearance, without the reality, of logical demonstration; and the repulsion is aggravated by the barbarous scholasticism with which—unlike Bacon, Hobbes, and Descartes—he peppers his pages. Yet, like the Greek philosophers, he is much more modern, more on the true line of developing thought than they are. But to get at the true kernel of his teaching we must, like Goethe, disregard the logical husks in which it is wrapped up. And, as it happens, Spinoza has greatly facilitated this operation by printing his most interesting and suggestive discussions in the form of Scholia, Explanations, and Appendices. Even these are not easy reading; but, to quote his own pathetic words, "If the way of salvation lay ready to hand, and could be found without great toil, would it be neglected by nearly everyone? But all glorious things are as difficult as they are rare."

Some of his expositors have called Spinoza a mystic; and his philosophy has been traced, in part at least, to the mystical pantheism of certain medieval Jews. In my opinion this is a mistake; and I will now proceed to show that the phrases on which it rests are open to an interpretation more consistent with the rational foundations of the whole system.

The things that have done most to fasten the character of a mystic on Spinoza are his identification of virtue with the knowledge and love of God, and his theory—so suggestive of Christian theology at its highest flight—that God loves himself with an infinite love. That, like Plato and Matthew Arnold, he should value religion as a means of popular moralisation might seem natural enough; but not, except from a mystical motive, that he should apparently value morality merely as a help to the religious life. On examination, however, it appears that the beatific vision of this pantheist offers no experience going beyond the limits of nature and reason. Since God and the universe are one, to know God is to know that we are, body and soul, necessary modes of the two attributes, Extension and Thought, by which

the infinite Power which is the essence of the universe expresses itself for us. To love God is to recognise our own vitality as a portion of that power, welcoming it with grateful joy as a gift from the universe whence we come. And to say that God loves himself with an infinite love is merely to say that the attribute of Thought eternally divides itself among an infinity of thinking beings, through whose activity the universe keeps up a delighted consciousness of itself.

Spinoza declares by the very name of his great work that for him the philosophical problem is essentially a problem of ethics, being, indeed, no other than the old question, first started by Plato, how to reconcile disinterestedness with self-interest; and his metaphysical system is really an elaborate mechanism for proving that, on the profoundest interpretation, their claims coincide. His great contemporary, Hobbes, had taught that the fundamental impulse of human nature is the will for power; and Spinoza accepts this idea to the fullest extent in proclaiming Power to be the very stuff of which we and all other things are made. But he parts company with the English philosopher in his theory of what it means. On his view it is an utter illusion to suppose that to gratify such passions as pride, avarice, vanity, and lust is to acquire or exercise power. For strength means freedom, self-determination; and no man can be free whose happiness depends on a fortuitous combination of external circumstances, or on the consent of other persons whose desires are such as to set up a conflict between his gratification and theirs. Real power means self-realisation, the exercise of that faculty which is most purely human—that is to say, of Thought under the form of reason.

In pleading for the subordination of the self-seeking desires to reason Spinoza repeats the lessons of moral philosophy in all ages and countries since its first independent constitution. In connecting the interests of morality with the interests of science as such, he follows the tradition of Athenian thought. In interpreting pantheism as an ethical enthusiasm of the universe he

returns to the creed of Stoicism, and strikes the keynote of Wordsworth's loftiest poetry. In fixing each man's place in nature as one among the infinite individuations of divine power he repeats another Stoic idea—with this difference, however, that among the Stoics it was intimately associated with their teleology, with the doctrine that everything in nature has a function without whose performance the universe would not be complete; whereas Spinoza, following Bacon and Descartes, utterly abjures final causes as an anthropomorphism, an intrusion of human interests into a universe whose sole perfection is to exhaust the possibilities of existence. And herein lies his justification of evil which the Stoics could only defend on æsthetic grounds as enhancing the beauty of moral heroism by contrast and conflict. "If I am asked," he says, "why God did not create all men of such a character as to be guided by reason alone, my answer is because he had materials enough to create all things from the highest to the lowest degree of perfection." Perfection with him meaning reality, this account of evil—and of error also—points to the theory of degrees of reality, revived and elaborated in our own time by Mr. F. H. Bradley, involving a correlative theory of illusion. Now, the idea of illusion, although older than Plato, was first applied on a great scale in Plato's philosophy, of whose influence on seventeenth-century thought this is not the only example. We shall find it to some extent countervailed by a revived Aristotelian current in the work of the metaphysician who now remains to be considered.

Leibniz

G. W. Leibniz (1646–1716), son of a professor at the University of Leipzig, is marked by some of the distinguishing intellectual characters of the German genius. Far more truly than Francis Bacon, this man took all knowledge for his province. At once a mathematician, a physicist, a historian, a metaphysician, and a diplomatist, he went to the bottom of whatever subject he touched, and enriched all his multifarious studies with

new views or with new facts. And as with other great countrymen of his, the final end of all this curiosity and interest was to combine and reconcile. One of his ambitions was to create a universal language of philosophy, by whose means its problems were to be made a matter of mathematical demonstration; another to harmonise ancient with modern speculation; a third—the most chimerical of all—to compose the differences between Rome and Protestantism; a fourth—partly realised long after his time—to unite the German Calvinists with the Lutherans. In politics he tried, with equal unsuccess, to build up a Confederation of the Rhine as a barrier against Louis XIV., and to divert the ambition of Louis himself from encroachments on his neighbours to the conquest of Egypt.

It seems probable that no intellect of equal power was ever applied in modern times to the service of philosophy. And this power is demonstrated, not, as with other metaphysicians, by constructions of more or less contestable value, however dazzling the ingenuity they may display, but by contributions of the first order to positive science. It is now agreed that Leibniz discovered the differential calculus independently of Newton; and, what is more, that the formulation by which alone it has been made available for fruitful application was his exclusive invention. In physics he is a pioneer of the conservation of energy. In geology he starts the theory that our planet began as a glowing molten mass derived from the sun; and the modern theory of evolution is a special application of his theory of development.

Intellect alone, however, does not make a great philosopher; character also is required; and Leibniz's character was quite unworthy of his genius. Ambitious and avaricious, a courtier and a time-server, he neither made truth for its own sake a paramount object, nor would he keep on terms with those who cherished a nobler ideal. After cultivating Spinoza's acquaintance, he joined in the cry of obloquy raised after his death, and was mean enough to stir up religious prejudice against Newton's theory of gravitation. Of the calamity

that embittered his closing days we may say with confidence that it could not possibly have befallen Spinoza. On the accession of the Elector of Hanover to the English crown as George I., Leibniz sought for an invitation to the Court of St. James. Apparently the prince had not found him very satisfactory as a State official, and had reason to believe that Leibniz would have liked to exchange his office of historiographer at Hanover for a better appointment at Vienna. Greatness in other departments could not recommend one whom he knew only as a negligent and perhaps unfaithful servant to the favour of such an illiterate master. Anyhow, the English appointment was withheld, and the worn-out encyclopædist succumbed to disease and vexation combined. The only mourner at his funeral was his secretary, Eckhardt, who hastened to solicit the reversion of the offices left vacant by his chief's decease.

A single theory of Leibniz has attained more celebrity than any one utterance of any other philosopher; but that fame is due to the undying fire in which it has been enveloped by the mocking irony of Voltaire. Everything is for the best in the best of all possible worlds. Such is the famous text as a satire on which *Candide* was composed. Yet whatever value Voltaire's objections to optimism may possess tells nearly as much against Voltaire himself as against his unfortunate butt. For, after all, believing as he did in a God who combined omnipotence with perfect goodness he could not any more than Leibniz evade the obligation of reconciling the divine character with the divine work. On *à priori* grounds the German philosopher seems to have an incontrovertible case. A perfect Being must have made the best possible world. The only question is what we mean by goodness and by possibility. Spinoza had solved the problem by identifying goodness with existence. It is enough that the things we call evil are possible; the infinite Power of nature would be a self-contradiction were they not realised. Leibniz rejects the pantheistic position in terms, but nearly admits it in practice. Evil for him means imperfection, and if God

made a world at all it was bound to be imperfect. The next step was to call pain an imperfection, which suggests a serious logical deficiency in the optimist; for although in certain circumstances the production of pain argues imperfection in the operator, we are not entitled to argue that wherever there is pain there must be imperfection. Another plea is the necessity of pain as a punishment for crime, or, more generally, as a result of moral freedom. Such an argument is only open to the believers in free-will. A world of free and responsible agents, they urge, is infinitely more valuable than a world of automata; and it is not too dearly purchased even at the cost of such suffering as we witness. The argument is not very convincing; for liberty of choice in a painless world is quite conceivable. But, be it a good or bad argument, although it might appeal to Voltaire, who believed in free-will, it could not decently be used by Leibniz, who was a determinist of the strictest type. To make this clear we must now turn to his metaphysical system.

Bacon, Descartes, and Spinoza, disagreeing widely on other subjects, were agreed in discountenancing the study of final causes: Bacon, apparently, from dislike of the idea that the perfect adaptation of all things to the service of man rendered superfluous any efforts to make them more serviceable still; Descartes from his devotion to the mathematical method which was more applicable to a system of mechanical causation; Spinoza for the same reason, and also from his disbelief in a personal God. Leibniz, on the contrary, felt deeply impressed by a famous passage in Plato's *Phædo*, where Socrates, opposing the philosophy of teleology to the philosophy of mechanism, desiderates an explanation of nature as designed with a view to the highest good. But Leibniz did not go so far as Plato. Meditating between the two methods, he taught that all is done for the best, but also that all is done through an unbroken series of efficient causes. At the same time, these causes are only material in appearance; in reality they are spiritual beings. There is no such thing as dead matter; the universe consists of living forces all through. The general idea of

force probably came from that infinite Power of which, according to Spinoza, the whole universe is at once the product and the expression; or it may have been suggested by Plato's incidental identification of Being with Action. But Leibniz found his type of force in human personality, which, following the lead of Aristotle rather than of Plato, he conceived as an Entelechy, or realised Actuality, and a First Substance. After years of anxious reflection he chose the far happier name of Monad, a term originally coined by Bruno, but not, as would appear, directly borrowed from him by the German metaphysician.

According to Leibniz, the monads or ultimate elements of existence are constituted by the two essential properties of psychic life, perception and appetency. In this connection two points have to be made clear. What he calls bare monads—*i.e.*, the components of what is known as inorganic matter—although percipient are not conscious of their perceptions; in his language they do not *apperceive*. And he endeavours to prove that such a mentality is possible by a reference to our own experience. We hear the roaring of waves on the seashore, but we do not hear the sound made by the falling of each particle of water. And yet we certainly must perceive it in some way or other, since the total volume of sound is made up of those inaudible impacts. He overlooks the conceivable alternative that the immediate antecedent of our auditory sensations is a cerebral disturbance, and that this must attain a certain volume in order to produce an effect on our consciousness. The other point is that the appetency of a monad does not mean an active impulse, but a search for more and more perceptions, a continuous widening of its cognitive range. In short, each monad is a little Leibniz for ever increasing the sum of its knowledge.

At no stage does that knowledge come from experience. The monad has no windows, no communication of any kind with the external world. But each reflects the whole universe, knowing what it knows by mere introspection. And each reflects all the others at a

different angle, the angles varying from one another by infinitesimal degrees, so that in their totality they form a continuous series of differentiated individuals. And the same law of infinitesimal differentiation is observed by the series of progressive changes through which the monads are ever passing, so that they keep exact step, the continuity of existence being unbroken in the order of succession as in the order of co-existence. Evidently there is no place for free-will in such a system; and that Leibniz, with his relentless fatalism, should not only admit the eternal punishment of predestined sinners, but even defend it as morally appropriate, obliges us to condemn his theology as utterly irrational or utterly insincere.

In this system animal and human souls are conceived as monads of superior rank occupying a central and commanding position among a multitude of inferior monads constituting what we call their bodies, and changing *pari passu* with them, the correspondence of their respective states being, according to Leibniz, of such a peculiarly intimate character that the phenomena of sensation and volition seem to result from a causal reaction instead of from a mechanical adjustment such as we can imagine to exist between two clocks so constructed and set as to strike the same hour at the same time. This theory of the relations between body and soul is known to philosophy as the system of pre-established harmony.

It may be asked how every monad can possibly reflect every other monad when we do not know what is passing in our own bodies, still less what is passing all over the universe. The answer consists in a convenient distinction between clear and confused perceptions, the one constituting our actual and the other our potential knowledge. A more difficult problem is to explain how any particular monad—Leibniz or another—can consistently be a monadologist rather than a solipsist believing only in its own existence. Here, as usual, the *Deus ex Machina* comes in. Following Descartes, I think of God as a perfect Being whose idea involves his

existence, with, of course, the power, will, and wisdom to create the best possible world—a universe of monads—which, again, by its perfect mutual adjustments, proves that there is a God. A more serious, and indeed absolutely insuperable, objection arises from the definition of the monads as nothing but mutually reflecting entities. For even an infinity of little mirrors with nothing but each other to reflect must at once collapse into absolute vacuity. And with their disappearance their creator also disappears. God, the supreme monad, we are told, has only clear perceptions; but the clearness is of no avail when he has nothing to perceive but an absolute blank. Leibniz rejected the objectivity of time and space; yet the hollow infinity of those blank forms seems, in his philosophy, to have reached the consciousness of itself.

CHAPTER III

THE THEORISTS OF KNOWLEDGE

Locke, Berkeley, Hume, Kant

EPISTEMOLOGY, or theory of knowledge, did not begin in modern times. Among the Greeks it goes back, at least, to Empedocles, and figures largely in the programmes of the later schools. And Descartes's universal doubt seems to give the question, How can we be sure of anything? a foremost place in speculation. But the singular assurance with which the Cartesian metaphysicians presented their adventurous hypotheses as demonstrated certainties showed that with them the test of truth meant whatever told for that which, on other grounds, they believed to be true. In reality, the thing they called reason was hardly more than a covert appeal to authority, a suggestion that the duty of philosophy was to reconcile old beliefs with new. And the last great dogmatist, Leibniz, was the one who practised this method of uncritical assumption to the utmost extent.

Locke

It is the peculiar glory of John Locke (1632–1704) to have resumed that method of doubt which Descartes had attempted, but which his dogmatic prepossessions had falsified almost at the first start. This illustrious thinker is memorable not only for his services to speculation, but for the example of a genuinely philosophic life entirely devoted to truth and good—a character in which personal sweetness, simplicity, and charm were combined with strenuous, disinterested, and fearless devotion to the service of the State. Locke was a Whig when

Whiggism meant advanced Liberalism in religion and politics, and when *that* often meant a choice between exile and death. Thus, after the fall of his patron, Lord Shaftesbury, the philosopher had to take refuge in Holland, remaining there for some years, lying hid even there for some time to escape an extradition order for which the Government of James II. had applied. It was in Holland that he wrote the *Essay Concerning Human Understanding*.

This revolutionist in thought was no solitary recluse, but, in the best sense, a thorough man of the world. Educated at Westminster and Christ Church, he had, in the German poet's phrase, the supreme happiness of combining the seriousness of an enthusiast with the sagacity of a statesman, so that great statesmen recognised him as one of themselves. With the triumph of the Whig cause at a time when diplomacy demanded the utmost tact and skill, it was proposed to send Locke as Ambassador to the Court of Brandenburg, and, as that would not have suited his sober habits, to the Court of Vienna. Weak health obliging him to decline this also, he received office in the Ministry at home, taking a department where business talents were eminently required. In that capacity he bore a leading part in the restoration of the coinage, besides inspiring the Toleration Act and advocating unlicensed printing. Even the wisest men make mistakes; and it must be noticed with regret that Locke's theory of toleration excluded Roman Catholics on the one side and atheists on the other—the former because their creed made persecution a duty, the latter because their want of a creed left them no sanction for any duties whatever. To say that Locke had not our experience does not excuse him, for in both cases the expediency of toleration can be proved *à priori*. Romanists must be expected to suppress a heresy whose spokesman declares that when he has the power he will suppress their Church; and, if atheists are without moral principle, they will propagate, under cover of orthodoxy, negations that they are not allowed openly to profess.

Locke was brought up by a Puritan father; and, although in after life he wandered far from its doctrinal standards, he no doubt always retained a sense of that close connection between religion and morality which Puritanism implies. Telling about the train of thought that started his great Essay, he refers it to a conversation between himself and some friends, in which they "found themselves quickly at a stand by the difficulties that rose on every side;" and, according to an intimate friend of his, the discussion turned "on the principles of morality and revealed religion." It then occurred to him that they should first ascertain "what objects their understandings were or were not fitted to deal with." And the mottoes prefixed to the essay prove that the results were of a decidedly sceptical cast. Indeed, his successors, though not himself, were destined to develop them into what is now called Agnosticism.

We have further to note that, while his Continental rivals were mathematicians, our English philosopher never went deeply into mathematics, but was by calling a physician. In this he resembles Aristotle and Sextus Empiricus among the Greeks; and so it is quite in order that, with the same sort of training, he should adopt Aristotle's method of experience as against Platonic transcendentalism, and the sceptical relativism of Sextus as against the dogmatism of the schools.

Locke begins his essay with a vigorous polemic against the doctrine of Innate Ideas. The word "idea," as he uses it, is ambiguous, serving to denote perceptions, notions, and propositions; but this confusion is of no practical importance, his object being to show that all our knowledge originates in experience; whereas the reigning belief was that at least the first principles of knowledge had a more authoritative, if not a mystical, source. Hobbes had been beforehand with him in deriving every kind of knowledge from experience, but had been content to assume his case; whereas Locke supports his by a formidable array of proofs. The gist of his argument is that intellectual and moral principles supposed to be recognised by all mankind from their

infancy are admitted only by some, and by those only as the result of teaching.

As we saw, the whole inquiry began with questions about religion and morality; and it is precisely in reference to the alleged universality and innateness of the belief in God and the moral law that Locke is most successful. And the more modern anthropology teaches us about primitive man, the stronger becomes the case against the transcendental side in the controversy. Where his analysis breaks down is in dealing with the difficult and important ideas of Space, Time, Substance, and Causality—with the fatal result that such questions as, How is experience itself possible? or, How from a partial experience can we draw universal and necessary conclusions? find no place in his theory of knowledge. Of course, his contemporaries are open to the same criticism—nor, indeed, had the time come even for the statement of such problems. Meanwhile, the facility with which the founder of epistemology accepts fallacies whence Spinoza had already found his way out shows how little he was master of his means. According to Locke, it is "a certain and evident truth that there is an eternal, most powerful, and most knowing being, which whether anyone will please to call God it matters not." On examination the proof appears to involve two unproved assumptions. The first is that nothing can begin to exist without a cause. The second is that effects must resemble their causes. And from these it is inferred that an all-powerful being must have existed from all eternity. The alternative is overlooked that a succession of more limited beings would answer the purpose equally well, while it would also be more consistent with our experience. But a far more fatal objection to Locke's theism results from his second assumption. This, although not explicitly stated, is involved in the assertion that for knowledge such as we possess to originate from things without knowledge is impossible. For, on the same principle, matter must have been made by something material, pain by something that is pained, and evil by something that is evil. It would

not even be going too far to say that by this logic I myself must have existed from all eternity; for to say that I was created by a not-myself would be to say that something may come from nothing.

We have seen how Locke refused toleration to atheists on the ground that their denial of a divine lawgiver and judge destroys the basis of morality. He did not, like Spinoza, believe that morality is of the nature of things. For him it is constituted by the will of God. Possibly, if pressed, he might have explained that what atheism denies is not the rule of right, but the sanction of that rule, the fear of supernatural retribution. Yet being, like Spinoza and Leibniz, a determinist, he should have seen that a creator who sets in motion the train of causes and effects necessarily resulting in what we call good or bad human actions has the same responsibility for those actions as if he had committed them himself. To reward one of his passive agents and to punish another would be grossly unjust and at the same time perfectly useless. But how do we know that he will, on any theory of volition, reward the good and punish the bad? "Because we have his word for it." And how do we know that he will keep his word? "Because he is all-good." But that, on Locke's principles, is pure assumption; and God, being quite sure that *he* has no retribution to fear, must be even more irresponsible than the atheist.

The principle that nothing can come from nothing, so far from proving theism, leads logically either to pantheism or to a much more thorough monadism than the system of Leibniz. And, metaphysics apart, it conflicts with a leading doctrine of the essay—that is the fundamental distinction between the primary and the secondary qualities of matter. We think of bodies as in themselves extended, resisting and mobile, but not in themselves as coloured, sonorous, odorous, hot, cold, or sapid. They cause our special sensations, but cause them by an unknown power. Again we perceive—or think we perceive—both primary and secondary qualities in close union as properties of a single object, and this

object in which they jointly inhere is called a substance. And to the question, What is substance? Locke admits that he has no answer except something we know not what. He has returned to the agnostic standpoint of the Cyrenaic school. This something, for aught we know, might have created the world.

Continental historians regard the whole rationalistic movement of the eighteenth century, or what in Germany is called the Enlightenment (Aufklärung), as having been started by Locke. But the sort of arguments that he adduces for the existence of a God prove that in theology at least his rationalism had rather narrow limits. Both his theism and his acceptance of Christianity on the evidence of prophecy and miracles show no advance on medieval logic. In this respect Spinoza and Bayle (1622–1709) were far more in line with the modern movement. Still, assuming scripture as an authoritative revelation, Locke shows that, rationally interpreted, it yields much less support to dogmatic orthodoxy than English Churchmen supposed. And whatever may have been the letter of his religious teaching, there can be little doubt that the English Deists, Toland, Shaftesbury, and Anthony Collins, represented its true spirit more faithfully than the philosopher himself.

Representative government and the subordination of ecclesiastical to secular authority—or, better still, their separation—are both good things in themselves and favourable conditions to the life of reason. Another condition is that children should be trained to exercise their intelligence instead of relying blindly on authority. In these respects also Locke's writings acted powerfully on the public opinion of the next century, especially through the agency of French writers; France, as Macaulay justly claims, being the interpreter between England and the world. Our present business, however, is not with the diffusion but the development of thought, and to trace this we must return to British philosophy.

Berkeley

George Berkeley (1684–1753) was born and educated in Ireland. The fact is of no racial or national importance, but interests us as accounting for his having received a better training in philosophy than at that time was possible in England. For the study of Locke, then proscribed at Oxford, had already been introduced into Dublin when Berkeley was an undergraduate there; and it was as a critical advance on Locke that his first publication, the *New Theory of Vision* (1709), was offered. Next year came the epoch-making *Principles of Human Knowledge*, followed in 1713 by the more popular *Dialogues*. At twenty-nine his work was done, and although he lived forty years longer, rising to be a Bishop in the Irish Church, after projecting a Christian Utopia for the civilisation of the North American Indians that never came to anything, and practising "every virtue under heaven," he made no other permanent contribution to thought.

Berkeley is at once a theorist of knowledge and a metaphysician, combining, in a way, the method of Locke with the method of Descartes and his successors. The popular notion of his philosophy is that it resolved the external world into a dream, or at least into something that has no existence outside our minds. But this is an utter misconception, against which Berkeley constantly protested. His quarrel was not with common-sense, but with the theorists of perception. To understand this we must return for a moment to Locke's teaching. It will be remembered in what a tangle of difficulties the essay had left its author. Matter had two sets of qualities, primary and secondary, the one belonging to things in themselves, the other existing only in our minds; yet both somehow combined in real substances independent of us, but acting on our senses. Substance as such is an unknown and unknowable postulate; nevertheless, we know that it was created by God, of whom our knowledge is, if anything, inconveniently extensive. Now Berkeley, to find his way

out of these perplexities, begins by attacking the distinction between primary and secondary qualities. For this purpose his *Theory of Vision* was written. It proves—or attempts to prove—that extension is not a real attribute of things in themselves, but an intellectual construction, or what Locke would have called an "idea of reflection." Till then people had thought that its objectivity was firmly established by the concurrent testimony of two senses, sight and touch. Berkeley shows, on the contrary, that visible and tangible extension are not the same thing, that the sensations—or, as he calls them, the ideas—of sight and touch are two different languages whose words we learn by experience to interpret in terms of each other without their being necessarily connected. A man born blind would not at first sight know how to interpret the visual signs of distance, direction, and magnitude; he would have to learn them by experience. These, in fact, are ideal relations only existing in the mind; and so we have no right to oppose mind as inextended to an extended or an external world.

Having thus cleared the ground, our young idealist proceeds in his next and greatest work, *Of the Principles of Human Knowledge*, to attack the problem from another side. The world of objects revealed through sensation and reflection is clearly no illusion, no creation of our own. We find it there, changing, when it changes, without or even very much against our will. What, then, is its origin and nature? Locke's view, which is the common view, tells us that it consists of material bodies, some animated and some not. And matter, the supposed substance of body, is made known to us by impressions on our organs of sense. But when we try to think of matter apart from these sensible qualities and the relations between them it vanishes into an empty abstraction. Now, according to Berkeley there are no abstract ideas—*i.e.*, no thoughts unassociated with some mental image besides a mere word; and Matter or inanimate substance would be such an idea, therefore it does not exist. There is nothing but

mind and its contents—what we call states of consciousness, what Locke and Berkeley called ideas. Whence, then, come the objects of our consciousness, and whither do they go when we cease to perceive them? At this point the new metaphysical system intervenes. Berkeley says that all things subsist in the consciousness of God, and by their subsistence his existence is proved. The direct apprehension of a reality that is not ourselves only becomes possible through what would be called in modern language a subjective participation in the divine consciousness, more feebly reflected, as would seem, in the memories, imaginations, and reasonings of our finite minds.

In pursuing these wonderful speculations Berkeley deviated widely from the direct line of English philosophy, and it is difficult not to believe that the deflection was determined by the influence of Malebranche, especially when we find that the writings of the Oratorian Father were included in his college studies. Moreover, a parallel line of idealistic development derived from the same source was evolving itself at the same time in English thought. John Norris (1657–1711), a correspondent of the Platonist Henry More, an opponent of Locke, and a disciple of Malebranche, had himself found an enthusiastic admirer in Arthur Collier (1680–1732), whose *Clavis Universalis* professed to be "a demonstration of the *non-existence or impossibility of an external world*" (1713). Both Norris and Collier, like Malebranche and Berkeley, were Churchmen; but so strong was the drift towards idealism that Leibniz, a layman and a man of science, contributed by his Monadology to the same current. Malebranche neither was nor could he be a complete idealist in the sense of denying the reality of matter; for the dogma of transubstantiation bound him, as a Catholic, to its acceptance, while Berkeley, Collier, and Leibniz, as Protestants, were under no such obligation. His idealism agreed more nearly with the Neo-Platonic doctrine of Archetypes in the divine Reason among which Matter was one. On the other hand, Berkeley probably borrowed from

him the notion of a direct contact with God, the difference being that with the Cartesian it is conceived as an objective vision, with Locke's disciple as (if the expression may be permitted) a subjective con-consciousness. Leibniz, again, while abolishing Matter, retains an external world composed indeed of spirits and so far immaterial, but existing independently of God.

All these systems involve the negation of two fundamental scientific principles. The first is that every change must be explained by reference to an antecedent change to which it bears a strict quantitative relation. The second is that no particular change can be referred to another change as its necessary antecedent unless it can be shown by experience that a precisely similar couple of changes are, in fact, always so connected. Let me illustrate these principles by an example. I leave a kettle full of cold water on the fire, and on returning after a sufficient interval of time I find the water boiling. Had I stayed by the fire and watched the process, my kettle would—a popular proverb to the contrary notwithstanding—have certainly boiled as soon, but also no sooner for being helped by my consciousness. The essential thing is that energy of combustion in the fire should be turned into energy of boiling in the water. Now, what is Berkeley's interpretation of the facts? Fire, kettle, water, and ebullition are what in his writings are called "ideas"—*i.e.*, phenomena occasionally in my mind, but always in God's mind. And according to this view the necessary antecedent to the boiling of the water is not the fire's burning, but God's consciousness of its burning, his perception being the essence of the operation. But it is proved by experience that neither my perception nor anyone else's ever made a single drop of water boil. In other words, perception is not in this instance a *vera causa*. Why, then, should the perception of any other mind, however exalted, have that effect?

Nor is this all. How does Berkeley know that God exists? Because, he says, to exist is to be perceived, and therefore for the universe to exist implies a universal

Percipient. But he got the idea of God from other men, who certainly did not come by it as a generalisation from their perceptions; they got it by generalising from their voluntary actions, which do produce the changes that perception cannot produce. It will be said that volitions and the feelings that prompt them exist only in consciousness. In whose consciousness? In that of a spirit. And what is spirit apart from sensation, thought, feeling, and volition? Simply one of those abstract ideas whose existence Berkeley himself denied.

Hume

The next step in the evolution of English thought was to consist in a return to Locke's method, involving a complete breach with seventeenth-century Platonism, and with the Continental metaphysics that it had inspired. This decisive movement was effected by one in whom German criticism has recognised the greatest of all British philosophers. David Hume (1711–1776) was born and bred at Edinburgh, which also seems to have been through life his favourite residence. But his great work, the *Treatise on Human Nature*, was written during a stay in France, between the ages of twenty-three and twenty-six. Thus his precocity was even greater than Berkeley's. Indeed, such maturity of thought so early reached is without a parallel in history. But Hume's style had not then acquired the perfection—the inimitable charm, Kant calls it—of his later writings; and, whether for this or for other reasons, the book, in his own words, "fell dead-born from the press." In middle life the office of librarian of the Advocates' Library at Edinburgh gave him access to the materials for his *History of England*, which proved a source of fame and profit. A profound historical scholar, J. S. Brewer, tells us that Hume "possessed in a pre-eminent degree some of the highest excellences of a historian." Other historians have treated their subjects philosophically; he furnishes the sole instance of a great speculative genius who has also produced a

historical masterpiece of the first order. But morally it is a blot on his fame. It is sad that a philosopher should have deliberately perverted the truth, that one who has performed priceless services to freedom of thought should have made himself the apologist of clericalising absolut-

David Hume

ism, and, still more, that a master of English played this part to some extent through hatred of the great English people engendered by disappointed literary ambition. It may be mentioned, however, as a possible extenuation that towards the middle of the eighteenth century the highest English ability had thrown itself, with few exceptions, on the Tory side. It must be mentioned

also that in private life Hume's character was entirely admirable—cheerful, generous, and gentle, without a frailty and without a stain. His opinions were unpopular; but his life offered no handle for obloquy, although his studious retirement was more than once exchanged for the responsibilities of political office, and the freedom from pedantry so conspicuous in his writings bears witness to habits of well-bred social intercourse.

Hume's philosophy is best understood when we consider it as, in the first place, a criticism of Berkeley, just as Berkeley's had been a criticism of Locke. It will be remembered that the founder of subjective idealism discarded the notion of material substance as an "abstract idea," an unintelligible figment devoid of any sensuous or imaginative content. The only true substances are the subjects of what we call experience communicating through sensation with God, the infinite spirit whose eternal consciousness is reality itself. Hume applied the same tests to spiritual substance, and found that it equally disappeared under his introspective analysis. He begins by dividing the contents of consciousness into two classes, impressions and ideas—the second being copies of the first, and distinguished from them by their relative faintness. Now, from these perceptions (which he called thoughts) Descartes had passed by an immediate inference to the ego or self, which he affirms as the primary fact of consciousness, using it as a basis for sundry other conclusions. But Hume stops him at once, and will not grant the existence of the metaphysical self—that is, a simple and continued substance, as distinguished from particular states of consciousness. We are, he declares, "nothing but a bundle of different perceptions, which succeed each other with an inconceivable rapidity, and are in a perpetual flux and movement." "There is properly no *simplicity* in it [the self] at one time, nor *identity* in different [times]; whatever natural propensity we may have to imagine that simplicity and identity." So much being assumed, Berkeley's whole argument for a new

theology founded on subjective idealism is bound to collapse, as also is the argument for natural immortality derived from the supposed simplicity and identity of the thinking substance.

Modern critics have rightly insisted, as against Hume, that isolated perceptions without a self are abstractions not less unintelligible than a self without perceptions. But the metaphysical argument for human immortality has not benefited by this more concrete interpretation of epistemology; and probably Hume was really more interested in destroying this than in maintaining the sceptical paradox which does not recur in his later writings.

A word must be added about Hume's division of perceptions into impressions and ideas. The point left out of sight in this analysis is that impressions of sense habitually find their reflexes not in revived sensations, but in expressions, in motor reactions which, with human beings, mostly take the form of words uttered or thought. These, no doubt, are associated to some small extent with revived sensations; but they are more commonly grouped with other words, with movements of the limbs, and with actions on the material or human environment of the percipient. Such expressions are incomparably easier to revive in memory, imagination, or expectation than the impressions that originally excited them; and, indeed, it is in connection with them that such revivals of sensation as we actually experience take place. And it is probable that to this active side of our consciousness we may trace those associative processes which Hume studies next in his analysis of human knowledge.

Putting aside principles of doubtful or secondary value, the relations between states of consciousness that first offer themselves to view are, according to Hume, Co-existence and Succession (united under the name of Contiguity), Resemblance, and Causation. It is with the account he gives of this last category that his name is inseparably associated, for from it all subsequent speculation has taken rise. Yet primarily he

seems to have had no other object in view than to simplify the laws of knowledge by resolving one of them into a particular case of another, and thus reducing his three categories to two. The relation of cause and effect, he tells us, is no more than a certain relation between antecedent and consequent in time where the sequence is so habitual as to establish in our minds a custom of expecting the one whenever the other occurs. The sequence is not necessary, for one can think, without any self-contradiction, of a change which has not been preceded by another change; nor is it, like the truths of geometry, something that can be known *à priori*. Without experience no one could tell that bread will nourish a man and not nourish a lion, nor even predict how a billiard-ball will behave when another ball strikes it. Should it be objected that the *à priori* knowledge of a general principle need not involve an equal knowledge of nature's operations in particular cases, Hume would doubtless reply by saying that there is no abstract idea of causation apart from its concrete exemplifications.

It is possible to accept Hume's theory in principle without pledging oneself to all his incidental contentions. Causation, as a general law, may be known only by experience, whether we can or cannot think of it as a pure abstraction. And we may interpret it in terms of unconditional antecedence and consequence, while discarding his apparent assumption of an inscrutable connection between the two; a mysterious necessity for the production of the one by the other, for which it is felt that a reason exists, but for which our reason cannot account. It is inconceivable that our knowledge of any given sequence could be increased, except by the disclosure of intermediate sequences, making their continuity, in space and time, more absolute than we had before perceived, until the whole process has been resolved into a transference of momentum from one molecule to another—a change for which, according to Hume, no reason can be given. Nor, on his principles, would it help us to explain such transferences by bringing them under the law of the Conservation of Energy. For,

although this would be a great triumph for science, his philosophy demands a reason why the quantity of energy should remain unalterable for ever.

It is a mistake, shared by Hume with his opponents, to suppose that the common sense of mankind ever saw more than invariable sequence in the relation of cause and effect, or ever interpolated a mysterious power between them. In the famous verse, "Let there be light, and there was light," it is the instantaneity of succession, not the interpolation of any exerted effort, that so impresses the imagination. And when Shakespeare wants to illustrate logical compulsion in conduct, his reference is to an instance of invariable succession :—

> This above all,—to thine own self be true;
> And it must follow, as the night the day
> Thou canst not then be false to any man.

Indeed, I think it will be found on examination that when we associate the idea of power, or of necessity, with causal sequences, it is not in connection with a case of causation here and now, but rather in reference to similar effects that may be expected from the same cause elsewhere or at another time. And that "custom," by which Hume seeks to explain our belief in the "power" of the cause to produce its effect as well as the "necessity" of the connection between them, rather acts negatively by eliminating all other antecedents as possible causes than positively by setting up a habit of thinking about a particular antecedent and consequent at the same time. And that is why a burnt child needs no repetition of the experiment to be convinced that contact with fire was the cause of its pain. The very novelty of the experiment was enough to eliminate any explanation other than that of contact with the flame.

The child, as it grows older, may learn to speak of the fire as having a power to burn. But that merely means, "if I touch it, it will burn me—or light paper if I hold the paper to it." Power, in fact, is incomplete

causation, the presence of every condition but that one which, in Aristotelian phrase, turns potency into act. And it is in contradistinction to that idea of possibility that the idea of necessary connection comes in. When all the elements of the causal antecedent are combined the effect necessarily supervenes. Furthermore, the causal antecedent is thought of as necessary in contrast with the contingency of other antecedents whose connection with the effect is merely accidental. Finally, the idea of production has been quoted as vitally distinguishing true causation from invariable sequence. But various myths, of which the story of Œdipus is the best known, show that primitive folk regard day and night as alternately producing one another, just as Polonius quotes their sequence as a type of logical necessity.

Hume professed himself a Deist, but probably with no more seriousness than when he, or when Gibbon, called Christianity "our religion." At any rate, his philosophy destroys every argument for the existence of a Creator advanced in his own or in the preceding century. Nor need his particular theory of causation be invoked for the purpose. The most telling attack is on the argument from design. The apparent adaptation of means to ends in living organisms is quoted as evidence of their having been planned by a conscious intelligence. But, answers Hume, such an intelligence would itself exhibit marks of design, and so on for ever. Why not, then, stop at the animal organism as an ultimate fact? It was Shelley's unlucky demand for a solution of this difficulty that led to his expulsion from Oxford.

It has been shown how the new analysis of mind cut the ground from under Berkeley's theism, and from under the metaphysical argument for human immortality. By denying the substantiality of the ego it also confirmed the necessitarianism of Spinoza. Hume seemed to think he could abate the unpopularity of this doctrine by interpreting the constant motivation of human actions as a mere relation of antecedence and consequence. But the decisive point was that he

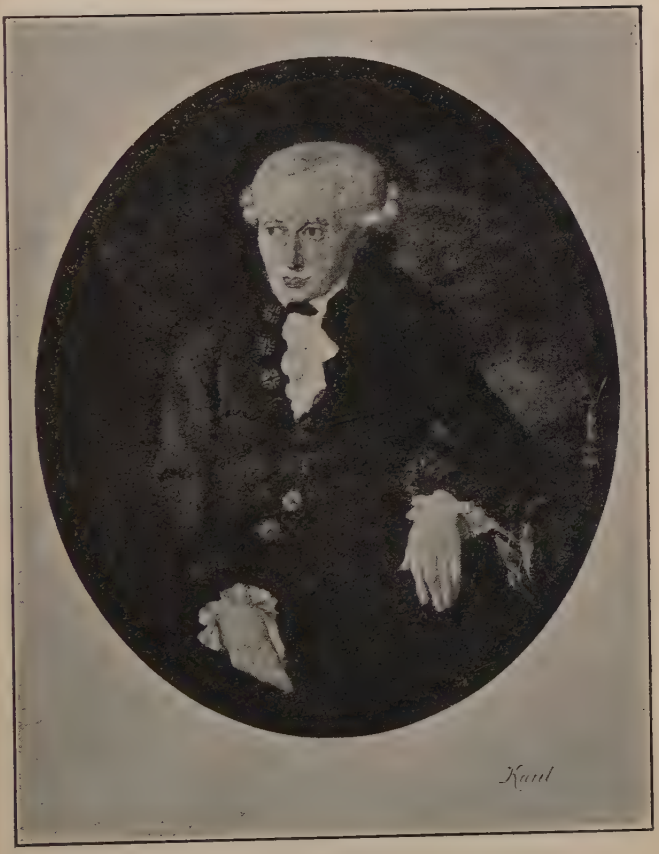
assimilated sequences in conscious behaviour to the unconscious sequences in physical events. Thus, for the vulgar and the theologians, he remained what would now be called a materialist.

Kant

The English philosophy of experience and the Continental philosophy of *à priori* spiritualism, after their brief convergence in the metaphysics of Berkeley, parted company once more, the empirical tradition being henceforth represented, not only by Hume, but in a more or less anti-Christian and much more superficial form by Voltaire, Rousseau, and the French Encyclopædists; while the Leibnizian philosophy was systematised and taught in Germany by Wolf, and a dull but useful sort of modernised Aristotelianism was set up under the name of " common sense " by Thomas Reid (1710–1796) and his school in the Scottish Universities.

The extraordinary genius who was to re-combine the parted currents in a speculative movement of unexampled volume, velocity, and depth showed nothing of the precocity that had distinguished Berkeley and Hume. Immanuel Kant (1724–1804), the son of a saddler of Scottish extraction, was born at Königsberg in Prussia, where he spent his whole life, holding a chair at the University from 1770 to 1797. It is related that on the day of his death a small bright cloud was seen sailing alone across the clear blue sky, of such a remarkable appearance that a crowd assembled on the bridge to watch it. One of them, a common soldier, exclaimed, " That is Kant's soul going to heaven ! "—a touching and beautiful tribute to the illustrious German, whose lofty, pure, and luminous spirit it was uniquely fitted to characterise.

Kant grew up among the Pietists, a school which played much the same part in Germany that the Methodists and the Evangelicals played in England; indeed, it was from them that John Wesley received his final inspiration. The Königsberg student came in time to discard their theology while retaining the stern



KANT

(*Copyright B. P. C.*)

Puritan morality with which it was wedded, and even, Rationalist as he became, some of their mystical religiosity. What drew him away to philosophy seems to have been first the study of classical philology and then physical science, especially as presented to him in Newton's works. And so the young man's first ambition, after settling down as a University teacher at Königsberg, was to extend the Newtonian method still further by explaining, on mechanical principles, the origin and constitution of that celestial system whose movements Newton had reduced to law, but whose beginning he had left unaccounted for except by—what was not science—the direct fiat of omnipotence.

Kant offered a brilliant solution of the problem in his *Natural History of the Heavens* (1755), a work embodying the celebrated nebular hypothesis rediscovered forty years later by Laplace. It has been well observed that great philosophers are most, if not always, what at Oxford and Cambridge would be called " double-firsts " —that is, apart from their philosophy, they have done first-class work in some special line of investigation, as Descartes by creating analytical geometry, Spinoza by applying Biblical criticisms to theology, Leibniz by discovering the differential calculus, Locke by his theory of constitutional government, Berkeley by his theory of vision, Hume by his contributions to history and political economy. Kant's cosmogony may have been premature and mistaken in its details; but his idea of the heavenly bodies as having originated from the condensation of diffused gaseous matter still holds its ground; and although the more general idea of natural evolution as opposed to supernatural creation is not modern but Greek, to have revived and reapplied it on so great a scale is a service of extraordinary merit.

The next great event in Kant's intellectual career is his rejection of Continental apriorism in metaphysics for the empiricism of the English school, especially as regards the idea of causation. For a few years (1762–1765) Kant accepts Hume's theory that there is nothing in any succession of events or in change generally to

prove on grounds of pure reason that there must be more in it than a customary sequence. To believe that anything may happen without a cause does not involve a logical contradiction; and at that time he believed nothing to be known *à priori* except that the denial of which involves such a contradiction. But on reconsidering the basis of mathematical truth it seemed to him to be something other than the logical laws of Identity and Contradiction. When we say that seven and five are twelve we put something into the predicate that was not affirmed in the subject, and also when we say that a straight line is the shortest distance between two points. Yet the second proposition is as certain as the first, and both are certain in the highest degree, more certain than anything learned from experience, and needing no experience to confirm them.

So much being admitted, we have to recognise a fundamental division of judgments into two classes, analytic and synthetic. Judgments in which the predicate adds nothing to the subject are analytic. When we affirm all matter to be extended, that is an instance of the former, for here we are only making more explicit what was already contained in the notion of matter. On the other hand, when we affirm that all matter is heavy, that is an instance of the latter or synthetic class, for we can think of matter without thinking that it has weight. Furthermore, this is not only a synthetic judgment, but it is a synthetic judgment *à posteriori ;* for the law of universal gravitation is known only by experience. But there are also synthetic judgments *à priori ;* for, as we have just seen, the fundamental truths of arithmetic and geometry belong to this class, as do also by consequence all the propositions logically deduced from these—that is to say, the whole of mathematical science.

Up to this point Kant would have carried the whole Cartesian school, and, more generally, all the modern Platonists, along with him; while he would have given the English empiricists and their French disciples a rather hard nut to crack. For they would have had to choose between admitting that mathematics was a

mass of identical propositions or explaining, in the face of Hume's criticism, what claims to absolute certainty its truths, any more than the Law of Causation, possess. Now, the great philosophical genius of Kant is shown by nothing more than by this, that he did not stop here. Recognising to the same extent as Locke and Hume that all knowledge comes from experience—at any rate, in the sense of not coming by supernatural communication, as Malebranche and Berkeley thought—he puts the famous question, How are synthetic judgments *à priori* possible? Or, as it might be paradoxically expressed, How come we to know with the most certainty the things that we have not been taught by experience? The answer is, that we know them by the most intimate experience of all—the underlying consciousness that we have made them what they are. Our minds are no mere passive recipients, in which a mass of sensations, poured in from some external source, are then arranged after an order equally originated from without; there is a principle of spontaneity in our own subjectivity by which the objective order of nature is created. What Kant calls the Matter of knowledge is given from without, the Form from within. And this process begins with the imposition of the two great fundamental Forms, Space and Time, on the raw material of sensation by our minds.

By space and time Kant does not mean the abstract ideas of coexistence and succession; nor does he call them, as some critics used incorrectly to suppose, forms of thought, but forms of intuition. We do not build them up with the help of muscular or other feelings, but are conscious of them in a way not admitting of any further analysis. The parts of space, no doubt, are coexistent, but they are also connected and continuous; more than this, positions in space do not admit of mutual substitution; the right hand and left hand glove are perfectly symmetrical, but the one cannot be superimposed on the other. Besides, all particular spaces are contained in universal space, not as particular conceptions are contained in a general conception, but as parts

of that which extends to infinity, and where each has an individual place of its own, repeating all the characters of space in general except its illimitable extension. And the same is true of time, with this further distinction from abstract succession, that succession may be reversed; whereas the order of past, present, and future is irreversibly maintained.

The contemporary school of Reid in Scotland, and the subsequent Eclectic school of Victor Cousin in France, would agree with Kant in maintaining that sensuous experience will not account for our knowledge of space and time. But they would protest, in the name of common sense, against the reduction of these apparently fundamental elements to purely subjective forms. They would ask, with the German critic Trendelenburg, Why cannot space and time be known intuitively and yet really exist? Kant furnishes no direct answer to the question, but he has suggested one in another connection. Mathematical truth is concerned with spatial and temporal relations, and for that truth to be above suspicion and exception we must assume that the objects with which it deals are wholly within our grasp—that our knowledge of them is exhaustive. But there could be no such assurance on the supposition that, besides the space and time of our sensuous experience, another space and time existed independently of our consciousness as attributes of things in themselves—possibly differing in important respects from ours—as, for example, a finite, or a non-continuous, or a four-dimensional space, and a time with a circular instead of a progressive movement.

This easy assumption that reality accommodates itself to our intellectual convenience, instead of our being obliged to accommodate our theories of knowledge to reality, runs through and vitiates the whole of Kant's philosophy. But, taking the narrower ground of logical consistency, one hardly sees how his principles can hold together. We are told that the subjectivity of space and time is not presented as a plausible hypothesis, but as a certain and indubitable truth, for in no other way

can mathematical certainty be explained. The claim is questionable, but let it be granted. Immediately a fresh difficulty starts up. What is the source of our certainty that space and time are subjective forms of intuition? If the answer is, because that assumption guarantees the certainty of mathematics, then Kant is reasoning in a circle. If he appeals—as in consistency he ought—to another order of subjectivity as the sanction of his first transcendental argument, such reasoning involves the regress to infinity.

Again, on Kant's theory, time is the form of intuition for the inner sense. So when we become conscious of mental events we know them only as phenomena; we remain ignorant of what mind is in itself. But before the publication in 1770 of Kant's inaugural dissertation on *The Sensible and the Intelligible World* every one, plain men and philosophers alike, believed that the consciousness of our successive thoughts and feelings was the very type of reality itself; and they held this belief with a higher degree of assurance than that given to the axioms of geometry. By what right, then, are we asked to give up the greater for the less, to surrender our self-assurance as a ransom for Euclid's *Elements* or even for Newton's *Principia*?

Once more, surely mathematics is concerned not with space and time as such, but with their artificial delimitations as points, lines, figures, numbers, moments, etc. And it may be granted that these are purely subjective in the sense of being imposed by our imagination (with the aid of sensible signs) on the external world. What if *this* subjectivity were the true source of that peculiar certainty belonging to synthetic judgments *à priori*? True, Kant counts in our judgments about the infinity and eternity of space and time with other accepted characteristics of theirs as intuitive certainties. But there are thinkers who find the negation of such properties not inconceivable, so that they cannot be adduced as evidence of a priority, still less of subjectivity.

Eleven years after the inaugural dissertation Kant

published his most important contribution to philosophy, *The Critique of Pure Reason* (1781). Pure Reason means the faculty by which ideas are obtained independently of all experience, and the critic's object is to ascertain how far such ideas are valid. As a preliminary to that inquiry the question is also mooted, How is experience possible? It is answered by a critique of the understanding or faculty of conception; and as conception implies perception, this again is prefaced by a section in which Kant's theory of space and time is repeated and reinforced.

It will be remembered that what started the whole of the new criticism was Hume's sceptical analysis of Causation; and the central interest of *The Critique of Pure Reason* lies in the effort to reconstitute the causal law in the light of the new theory of knowledge; but so enormous is the mass of technicalities piled up for this purpose as largely to conceal it from view, and, on its disclosure, to give the idea of a gigantic machine set in motion to crack a nut. And the nut after all is *not* cracked; the shell slips from between the grappling surfaces long before they meet.

We have seen how Kant interpreted every judgment as a synthesis of subject and predicate. Now, whether the synthesis be *à priori* or *à posteriori*, a study of the forms of judgment as enumerated in the common logic shows that there are four, and only four, ways in which it can be effected. All judgments fall under the following classes: Quantity, Quality, Relation, and Modality —terms whose meaning will be presently explained. And each of these again is tripartite. We may say (i.) that one A is B, or that some A's are B, or that all A's are B; (ii.) that A is B, that A is not B, that not all A's are B; (iii.) that A is B, that A is B if C is D, that A is either B, C, or D; or (iv.) that A may be B, that A is B, or that A must be B. The reason why there are four and only four classes is that judgment has to do with the subject in reference to the predicate, which gives Quantity; with the predicate in reference to the subject, which gives Quality; with the connection between the

two, which gives Relation; and with the synthesis between them in reference to our knowledge of it, which gives Modality.

Now, according to Kant, that there should be so many kinds of judgment and no more implies that our understanding contributes a formal element to the constitution of all knowledge, consisting of four combining principles, without which experience would be impossible. He calls these Categories, and they are enumerated in the following table :—

(i.) Quantity.
Unity, Plurality, Totality.
(ii.) Quality.
Reality, Negation, Limitation.
(iii.) Relation.
Substance and Accident; Cause and Effect; Action and Reaction (Reciprocity).
(iv.) Modality.
Possibility and Impossibility; Existence and Non-Existence; Necessity and Contingency.

A study of the Categories suggests some rather obvious criticisms on the Critical Philosophy itself. (i.) The first two terms in each triad evidently form an antithetical couple, of which the third term is the synthesis. Here we have the first germ of a disease by which the systems of Kant's successors were much more seriously infected. In the table it is shown by the intrusion of Limitation, a wholly superfluous adjunct to Reality and Negation; in the conversion of Reciprocity into a wholly fictitious synthesis of Substantiality with Causation; and in the complete absurdity of making Necessity a combination of Possibility with Existence. (ii.) Innate ideas, after they had been exploded by Locke, are reintroduced into philosophy by a sufficiently transparent piece of legerdemain. For assuming that the human intelligence possesses a power of organising and drilling the sensuous appearances which without its control would appear only as a disorderly mob, it by no means follows that they must thereby be referred to an extra-

phenomenal principle. But such a principle is plainly implied by the category of Substance. Used in a scholastic sense, it does not mean the sensuous attributes of a thing taken altogether, but something that underlies and supports them. And Kant himself seems to take his category in that significance. For he claims to deduce from it the law of the indestructibility of matter; as if I could not say snow is white without committing myself to the assertion that the ultimate particles of snow have existed and will exist for ever. (iii.) The substitution of Causation for logical sequence, as implicated in the hypothetical judgment of Relation, is perfectly scandalous; and still more scandalous is substitution of Reciprocity or Action and Reaction for Disjunction. The last points require to be examined a little more in detail.

The sequence of an effect to its cause has only a verbal resemblance to the sequence of a logical consequent to its reason. We declare categorically that every change has a cause which precedes it. Logical sequence is, on the other hand, as the very name of the judgment shows, hypothetical, and may possibly not represent any actual occurrence, besides being, what causation is not, independent of time. A particular case of causation may be hypothetical in respect to our belief that it actually occurred; never the law of causation itself as a general truth. And the same distinction applies with even greater force to the alleged connection between a logical disjunction and a physical reaction. When I say A is either B or C, but not both, there is only this much resemblance, that both cases involve the ideas of equality and of opposition. From the admission that A is not B, I infer that it is C, or, contrariwise, from the admission that it is B, I infer that it is not C, and in both instances with the same certainty; but this does not prove that the earth attracts the moon as much as the moon attracts the earth, only in opposite directions; nor yet that in certain instances all the heat lost by one body is gained by another.

Kant had learned this much from Hume, that causation is essentially a relation of antecedence and consequence in time; and apparently his way of "categorising" the relation—*i.e.*, of proving its apriority—is to represent it as the logical form of reason and consequent masquerading, so to speak, under the intuitional time-form. Yet he frequently speaks of our senses as being affected by things in themselves, implying that the resulting sensations are somehow caused by those otherwise unknown entities. But since things in themselves do not, according to Kant, exist in space and time, they cannot be causally related to phenomena or to anything else.

In his criticism of Pure Reason, properly so called—that is, of inferences made by human faculty with regard to questions transcending all experience—Kant shows that of such things nothing can be known. The ideality of time and space once taken as proved, this amount of agnosticism seems to follow as a matter of course. It is idle to speculate about the possible extent or duration of a universe that cannot be described in terms of coexistence and succession. For each of us at the dissolution of our bodily organism time itself, and therefore existence as alone we conceive it, comes to an end. The law of causation, applying as it does to phenomena alone, offers no evidence for the existence of a God who transcends phenomena. Kant, however, is not satisfied with such a simple and summary procedure as this. He tries to show, with most unnecessary pedantry, that the conditional synthesis of the Understanding inevitably leads thought on to the unconditional synthesis of the Reason only to find itself lost in a hopeless welter of paralogisms and self-contradictions.

At this stage we are handed over to the guidance of what Kant calls the Practical Reason. This faculty gives a synthesis for conduct, as Pure Reason gave a synthesis for intelligence. All reason demands uniformity, order, law; only what in theory is recognised as true has in practice to be imposed as right. In this way Kant arrives at his formula of absolute morality:

Act so that the principle of thy conduct may be the law for all rational beings. He calls this the Categorical Imperative, as distinguished from such hypothetical imperatives as: Act this way if you wish to be happy either here or hereafter; or, act as public opinion tells you. Moreover, the motive, as distinguished from the end of moral action, should not be calculating self-interest nor uncalculating impulse, but simply desire to fulfil the law as such. Previous moralists had set up the greatest happiness of the greatest number as the end of action, and such an aim does not lie far from Kant's philosophy; but they could think of no better motive for pursuing it than self-love or a rather undefined social instinct; and their *summum bonum* would take the happiness of irrational animals into account, while Kant absolutely subordinates the interests of these to human good. A further coincidence between the Utilitarian and the Kantian ethics is that in the latter also the happiness of others, not their perfection, should be the end and aim of each. Finally, the philosophy of Pure Reason adopts from contemporary French thought as the governing idea of political organisation what was long to be a principle of English Utilitarianism—"the liberty of each, bounded only by the equal liberty of all."

Nevertheless, the old postulate of a necessary connection between virtue and individual happiness reappears in Kant's ethical theory, and leads to the construction of a new religious philosophy. His critique had left no place for the old theology, nor yet for that doctrine of free-will so dear to most theologians. Its whole object had been to vindicate against Hume the necessity and universality of causation. Human actions then must, like all other phenomena, form an unbroken chain of antecedents and consequents. Nor does Kant conceal his conviction that, with sufficient knowledge and powers of calculation, a man's whole future conduct might be foretold. Nevertheless, under the eighteenth-century idea of man as naturally the creature of passion or self-interest, he claims for us, as moral agents, the power

of choosing to obey duty in preference to either. And this freedom is supposed to be made conceivable by the subjectivity of time and causation, outside of which, as a thing in itself, stands the moral will. That morality, whether as action or mere intention, involves succession in time is utterly ignored. Nor is this all. Assuming without warrant that the moral law demands an ultimate coincidence between happiness and virtue, made impossible in this life by human weakness, Kant argues that there must be an unending future life to secure time enough for working out a problem whose solution is infinitely remote. And, finally, there must be an omnipotent moral God to provide facilities for undertaking that somewhat gratuitous Psyche's task. Before Kant moral theology had argued that the Judge of all the world must do right, apportioning happiness to desert. It was reserved for him to argue, conversely, that for right to be done such a Judge must exist, and that therefore he does exist.

In appreciating the services of Kant to philosophy we must guard ourselves against being influenced by the extravagant panegyrics of his countrymen, whose passion for square circles he so generously gratifies. Still, after every deduction for mere Laputian pedantry has been made, the balance of fruitful suggestion remains vast. (i.) The antithesis of object and subject, although not counted among the categories of his *Critique*, has remained a prime category of thought ever since. (ii.) The idea of a necessary limit to human knowledge, given by the very theory of that knowledge, as distinguished from the Scepticism of the Greeks—in other words, what we now call Agnosticism—may not be final, but it still remains to be dealt with. (iii.) The possibility of reducing *à priori* knowledge to a form of unconscious experience has put an end to dogmatic metaphysics. (iv.) The problems of Time and Space have taken a central place in speculation; it has been shown—what Hume did not see—that Causation has the certainty of a mathematical axiom; and it has been made highly probable that all these difficulties may find their solution

in a larger interpretation of experience. (v.) Morality has been definitely dissociated from the appeal to selfish interests, whether in this life or in another.

We have now to trace, within the limits prescribed by the nature of this work, the development of philosophy under Kant's German successors.

CHAPTER IV

THE GERMAN IDEALISTS

Fichte, Schelling, Hegel, Schopenhauer, Herbart

The Critical Philosophy won its first success in Germany less as a new epistemology than as what, in fact, its author meant it to be, a rehabilitation of religious belief. The limits of Reason had been drawn so closely only to make room for Faith. But the current of Rationalism was running too strongly to be so summarily stopped; and so with Kant's ablest successors faith is altogether abandoned, while the claims of reason are pushed relentlessly through. Among these more logical thinkers the first is J. G. Fichte (1762–1814). In him—for the third time in modern history, for the first and last time in Germany—the hero as philosopher finds a worthy representative. Born in Silesia, like Kant, of humble parentage, and bred in circumstances of more oppressive poverty, he also received a severely religious and moral training as a preparation for the pastoral office. The bounty of an aristocratic patron gave him an excellent public-school education; but as a university student, first at Jena and then at Leipzig, he had to earn a scanty living by private tuition, finally abandoning his destined career to accept a post in a Swiss family at Zurich. There, as the result of an attachment in which the love was nearly all on the lady's side, he became engaged to a niece of the poet Klopstock, and after a long delay, caused by money difficulties, was enabled to marry her. In the meantime he had become a convert to Kant's philosophy, winning the admiration of the old master himself by a *Critique of all Revelation*, written in four

weeks. Published anonymously by an oversight, it was generally attributed to Kant himself and, on the real authorship becoming known, won for Fichte an extraordinary Professorate of Philosophy at Jena, where his success as a lecturer and writer gave him for a time the leadership in German speculation (1794–1799). An untoward incident brought this stage of his career to an end. Writing in a philosophical review, he defined God as "the moral order of the universe." Dr. Temple long afterwards used much the same phrase when Bishop of Exeter, finding it, presumably, compatible with official Theism; but such was not the impression created in Saxony. A cry of atheism arose, much to the disgust of Fichte, whose position would have been better described as pantheistic. But what incensed him most was the suspicion of an attempt to interfere with the liberty of academic teaching. With his usual impetuosity he talked about resigning his chair—with a hint that others would follow his example—were the authorities at Weimar to permit such an outrage. Goethe, who was then Minister, observed that no Government could allow itself to be threatened, and Fichte was at once relieved of his post. Settling at Berlin, he became Professor of Philosophy in the new University founded after the French conquest of Prussia, having previously done much to revive the national spirit by his *Addresses to the German Nation* (1807–1808). These were in appearance the programme of a new educational Utopia; but their real purpose was so evident that the speaker lived in daily expectation of being summoned before a French court-martial and shot. Unlike his countrymen, Goethe, Hegel, and Schopenhauer, Fichte passionately resented the Napoleonic despotism, throwing himself heart and soul into the great uprising by which it was finally overthrown. Although his wish to accompany the victorious army as field preacher could not be gratified, the campaign of 1813 still claimed him as one of its victims. After nursing his heroic wife to recovery from a hospital fever caught in attendance on the sick and wounded at Berlin, he took the infection from her and died early in

1814, soon after hearing that Blücher had crossed the Rhine.

G. H. Lewes, in a well-known story, has made himself and his readers merry over a German savant who undertakes to evolve the idea of a camel out of the depths of his moral consciousness. The phrase is commonly quoted as "inner consciousness," but this takes away its whole point. For the original satirist, who, I think, was not Lewes, but Heine, had in view the philosophy of Fichte. It need hardly be said that German savants are as careful observers and diligent collectors of facts as any others; and Fichte in particular trusted solely to experience for the knowledge of natural phenomena. But even as regards his general philosophy the place it gives to morality has been misconceived even by his closest students. With him good-will really plays a less important part than with Kant, being not an end in itself, but a means towards an end. And what that end is his teaching makes quite clear.

Kant's first critics put their finger on the weak point of his system, the thing in itself. So, assuming it to be discarded, Fichte set to work on new lines, the lines of pure idealism. But, though an idealist, he is not, any more than Berkeley, a solipsist. The celebrated antithesis of the ego and the non-ego dates from him, and strikes the keynote of his whole system. It might be thought that, as compared with the old realism, this was a distinction without a difference. But that is not so; for, according to Fichte, the non-ego is subjective in its origin, and that is where he departs widely from Berkeley's theological idealism. Not that I create the not-myself; I *assume* it as the condition of my self-consciousness—a remarkable feat of logic, but after all not more wonderful than that space and time should result from the activity of the outer and inner senses. This figment of my imagination is anyhow solid enough to beget a new feeling of resistance and recoil, throwing the self back on itself, and bringing with it the interpretation of that external impact by the category of causation, of its own activity as substance, and of the

whole deal between the ego and the non-ego as interaction or reciprocity. In this way the first triad of thesis, antithesis, and synthesis is obtained; and from this, by a vast expenditure of ingenuity, the whole array of Kant's forms, categories, and faculties is evolved as a coherent system of scientific thought in obedience to a single principle—the self-realisation of the ego, alternatively admitting and transcending a limit to its activity.

It will be easily understood that this self-realising ego is neither Fichte's nor anyone else's self, but a universal principle, fundamentally the same in all. One is reminded of Descartes's self-thinking thought by which the reality of the universe was guaranteed; but between the two there is this vast difference, that the Frenchman's ego resembles a box containing a variety of independent ideas, to be separately handled and examined; the German's is a box enclosing a coiled-up spring by the expansion of which all the wheels of the philosophical machine are made go round. From the action of the not-self on the self results the whole of nature as we conceive it; from the reaction of the self on the not-self, the whole mentality and morality of man—morality being understood to include the domestic, social, political, educational, and industrial organisation of life. The final cause, the impelling ideal of existence, is the self-realisation of the ego, the entire absorption into its personal energy of the non-ego, of nature, to be effected by perfect knowledge of how the physical universe is constituted issuing in perfect subjugation of its forces to the human will. But such a realisation of the Absolute Ego would mean its annihilation, for, as we have seen, the antithesis between objective and subjective is the very condition of consciousness, that without which it could neither begin nor continue to exist. Therefore the process must go on for ever, and this necessity guarantees the eternal duration of the human race—not, as Kant had dreamed, of the individual soul, since for Fichte the Categorical Imperative demands a consummation widely different from that combination

of virtue with happiness which had satisfied his master. And the agency by which it is being effected through infinite time is not a personal God, but that moral order of the world which Fichte regarded as the only true object of religious feeling. As for human immortality, he seems to have first accepted, but afterwards rejected it in favour of a mystical union with the divine.

It has been said that morality was not with Fichte what it had been with Kant—the highest good. Nevertheless, as a means towards the final synthesis, morality interested him intensely, and his best work has been done in ethics. As a condition of self-realisation the primal ego becomes personified in a multitude of free individualities. Just as in Stoicism, each individual is conceived as having a special office to perform in the world-process, and the State exists—ideally speaking—in order to guarantee the necessary independence of all its citizens. For this purpose everyone must have the right to work and the right to a living wage. Thus Fichte appears as the first theorist of State Socialism in the history of German thought. Probably the example of the Greek Stoics with their communistic utopias acting on a kindred spirit, rather than any prophetic vision of the coming century, is to be credited for this remarkable anticipation.

Schelling

German philosophy is prolific of self-contradictions; and so far the most flagrant example has been offered by Fichte's *Theory of Knowledge*, starting as it does with the idea of an impersonal ego, developing through a process in which this selfless self demands its own negation at every step and determined by the prospect of a catastrophe that would be the annihilation of consciousness itself. In fact, there seemed no need to wait until time had run out; the self, or, as it was now called, the subject, had absorbed all reality, only to find that the material universe, reconstituted as the object of knowledge, was an indispensable condition of its existence. And meanwhile the physical sciences, more particularly

those concerned with inorganic nature, were entering on a series of triumphs unparalleled since the days of Newton. Philosophy must come to terms with these or cease to exist.

The task of reconciliation was first attempted by F. W. J. Schelling (1775–1854), a Suabian, and the first South German who made a name in pure philosophy. Educated at the University of Tübingen, at an early age he covered an encyclopædic range of studies and began authorship at nineteen, gaining a professorship at Jena four years later. Wandering about from one university to another, and putting forward new opinions as often as he changed his residence, the young adventurer ceased to publish after 1813, and remained silent till in 1841 he came forward at Berlin as the champion of a reactionary current, practically renouncing the naturalistic pantheism by which his early reputation had been made. But he utterly failed in the attempt, which was finally abandoned in the fifth year from its inception. Lewes, who saw Schelling in his old age, describes him as remarkably like Socrates; his admirers called him a modern Plato; but he had nothing of the deep moral earnestness that characterised either, nor indeed was morality needed for the work that he actually did. This, to use the phrase of his fellow-student Hegel, consisted in raising philosophy to its absolute standpoint, in passing from the subjective moralism of the eighteenth century to the all-comprehensive systematisation of the nineteenth.

Schelling began as a disciple of Fichte, but he came simultaneously under the influence of Spinoza, whose fame had been incessantly spreading through the last generation in Germany, with some reinforcement from the revived name of Bruno. Their teaching served to make the latent pantheism of Fichte more explicit, while the great contemporary discoveries gave a new interest to the study of nature, which Fichte, unlike Kant, had put in the background, strictly subordinating it to the moral service of man. Had he cared to evolve the idea of a camel from his moral consciousness, the

operation would not have demanded several years, but only a few minutes' thought. As thus: the moral development of humanity needed the co-operation of such a race as the Semites. To form their character a long residence in the Arabian deserts was needed. But for such nomads an auxiliary animal would be needed with long legs and neck, a stomach for storing water, hump, etc.—Q.E.D. Schelling also began by explaining the material world as a preparation for the spiritual; only he did not employ the method of teleological adaptation, but a method of rather fanciful analogy. As the evolution of self-conscious reason had proceeded by a triple movement of thesis, antithesis, and synthesis, so a parallel process had to be discovered in the advance towards a consciousness supposed to be exhibited in organic and inorganic nature.

The fundamental idea of natural philosophy is polarity —opposite forces combining to neutralise one another and then parting to be reunited at a higher stage of evolution. Thus attraction and repulsion—represented as space and time—by their synthesis compose matter; magnetism and electricity produce chemical affinity; life results from a triad of inorganic forces; in life itself productivity and irritability give birth to sensibility. The order of the terms made little, if any, difference. When long afterwards iron was magnetised by the electric current, Schelling claimed for himself the credit of anticipating this discovery, although he had placed magnetism before electricity.

The next step was to construct a philosophy of history. This, with much else, is included under the name of *A System of Transcendental Idealism* (1800) in the most finished of Schelling's literary compositions. History, according to the view here unfolded, is the gradual self-revelation of God, or the Absolute, in whom Nature and Spirit are united and identified, who never is nor can be, but always is to be. Meanwhile the supreme ideal is not that ever-increasing mastery of nature by man which Fichte contemplated, but their reconciliation as achieved by Art. For just as natural philosophy carried an

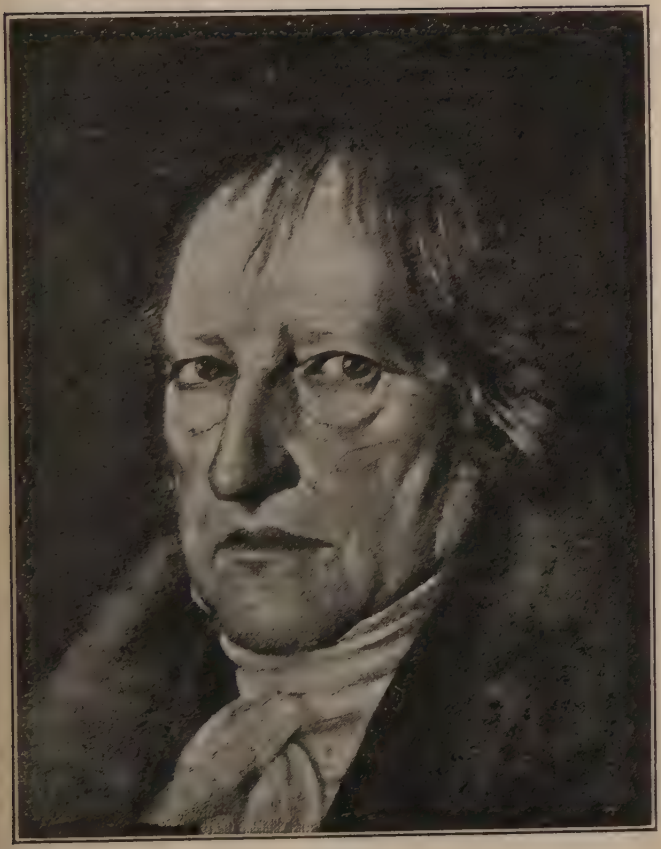
element of consciousness into the material universe, so æstheticism recognises a corresponding element of unconscious creation in the supreme works of artistic genius where spirit reaches its highest and best. Here Schelling appears as the philosopher of Romanticism, a movement that characterised German thought from 1795 to 1805, and is known to ourselves by the faded and feeble image of it exhibited in a certain section of English society nearly a century later. Beginning with a more cultivated intelligence of Hellenic antiquity, this movement rapidly grew into a new appreciation of medieval culture, falsely supposed to have given more scope to individuality than modern civilisation, and then into a search for ever-varying sources of excitement or distraction in the whole history, art, and literature of past or present times, religion being at last singled out as the vitalising principle of all.

Singularly enough, Fichte accepted the *Transcendental Idealism* as an orthodox exposition of his own philosophy. But its composition seems to have given Schelling the consciousness of his own independence. Soon afterwards he defined the new position as a philosophy of Identity or of Indifference. Nature and Spirit like Spinoza's Thought and Extension, were all the same and all one—that is to say, in their totality or in the Absolute. For, considered as appearances, they might present quantitative differences determined by the varying preponderance of the objective or of the subjective side. In this way Schelling found himself able to repeat his fanciful construction of the forces and forms of nature in successive triads under new names. The essential departure from Fichte, who repudiated the Philosophy of Identity with undisguised contempt, was that it practically repudiated the idea of an eternal progress in man's ever-growing mastery of nature. But, in spite of all disclaimers, the master silently followed his former disciple's evolution in the direction of a pantheistic monism. His later writings represent God no longer as the moral order of the world, but, like Spinoza, as the world's eternal Being, of which man's knowledge is the

reflected image. Finally, both philosophers accepted the Christian doctrines of the Fall, the Incarnation, and the Trinity as mythical symbols of an eternal process in which God, after becoming alienated from himself in the material universe, returns to himself in man's consciousness of identity with the Absolute. Instead of the rather abrupt method of position, negation, and reaffirmation known as Thesis, Antithesis, and Synthesis, we have here the more fluid process of a spiral movement, departing from and returning to itself. And this was to be the very mainspring of the system that next comes up for consideration.

Hegel

G. W. F. Hegel (1770–1831), in the opinion of some good judges Germany's greatest philosopher, was, like Schelling, a Suabian, and intimately associated with his younger contemporary, first at Tübingen and afterwards at Jena, where the two friends jointly conducted a philosophical review. But they gradually drifted apart. Hegel was not a romanticist, but a classic; not a naturalist, but a humanist. Largely influenced by Greek thought and Greek literature, for which he continued to be an enthusiast through life, he readily accepted, as against Kant and Fichte, the change from a purely subjective to an objective point of view. But, although he gave some attention to physical science, Hegel was less interested in it than his colleague, with whose crude and fanciful metaphysics he also failed to sympathise. With the publication of Hegel's first important work, the *Phenomenology of Mind* (1807), things came to a breach; for its preface amounts to a declaration of war against the philosophy of Romanticism. Schelling himself is not named; but there is no mistaking the object of certain picturesque references to " exploding the Absolute on us," and " the darkness in which every cow is black." Next year Hegel became what we should call headmaster of a public school at Nuremberg, filling that post for eight years, during which his greatest work, the *System of Logic*, in three volumes,



HEGEL

(*Copyright B.P.C.*)

was composed and published. He then obtained a chair of philosophy at Heidelberg, passing thence to Berlin in 1818, where he taught until his death by cholera in 1831. David Strauss, who saw the revered teacher a few days before the fatal seizure, describes him first as he appeared in the lecture-room, "looking ever so old, bent and coughing"; then in his home, "looking ten years younger, with clear blue eyes, and showing the most beautiful white teeth when he smiled." He had published a summary of his whole system, under the name of an *Encyclopædia of the Philosophical Sciences*, in 1817, and a *Philosophy of Law*—which is really a treatise on Government—in 1821. His sympathies were with bureaucratic absolutism in a modernised form, with Napoleon against the German patriots, with the restored Prussian Government against the new Liberalism, with English Toryism against the Whigs of the Reform Bill, and finally with the admirers of war against the friends of peace.

Hegel's collected works, published after his death, fill over twenty good-sized volumes. Besides the treatises already mentioned, they include his *Lectures on the History of Philosophy*, the *Philosophy of History*, the *Philosophy of Religion*, *Æsthetics*, etc., made up with much literary skill from the Professor's own notes and from the reports of his hearers. The most permanently valuable of these is the *Æsthetics;* but any student desirous of getting a notion of Hegelianism at first hand had better begin with the *Philosophy of History*, of which there is a good and cheap English translation in one of Bohn's Libraries. Some general points of view serving to connect the system with its predecessors are all that room can be found for here.

As compared with Kant, Hegel is distinguished above all by his complete abjuration of the agnostic standpoint in epistemology. "The universe is penetrable to thought": an unknowable thing in itself does not exist. Indeed, the intelligible reality of things is just what we know best; the unaccountable residuum, if any, lurks in the details of their appearance. So also in Greek

philosophy Hegel holds that the truth was not in the ideal world of Plato, but in the self-realising Forms of Aristotle. As against Fichte, Hegel will not allow that the reconciliation of the subjective with the objective is an infinitely "far-off divine event"; on the contrary, it is a process being continually realised by ourselves and all about us. In his homely expression, the very animals as they eat turn their food into consciousness, in utter disregard of prejudice. But Fichte's condemnation of Schelling's Indifferentism is quite right. *The Absolute is Mind.* Nature exists only as the lower stage, whence Spirit emerges to contradict, to confront, and to explain her as the necessary preparation for his supreme self-assertion. And Fichte was right in working out his system by the dialectical method of contradiction and solution, as against the dogmatism that summarily decrees the Absolute, without taking the trouble to reason it out, in imitation of the plan pursued by the universe in becoming conscious of itself.

The most portentous thing about Hegel's philosophy is this notion of the world's having, so to speak, argued itself into existence. To rationalise the sum of being, to explain, without assumptions, why there should be anything, and then why it should be as we know it, had been a problem suggested by Plato and solved rather summarily by Spinoza's challenge to conceive Infinite Power as non-existing. Hegel is more patient and ingenious; but, after all, his superiority merely consists in spinning the web of arbitrary dialectic so fine that we can hardly see the thread. The root-idea is to identify, or rather to confuse, causal evolution with logic. The chain of causes and effects that constitutes the universe is made out to be one with the series of reasons and consequents by which the conclusion is demonstrated. As usual, the equation is effected by a transference of terms from each side to the other. The categories and processes of logic are credited with a life and movement that belongs only to the human reasoner operating with them. And the moving, interacting masses of which the material universe consists are represented as parties to a dialectical dis-

cussion in which one denies what the other asserts until it is discovered, on lifting the argument to a higher plane, that after all they are agreed. Nor is this all. The world as we know it is composed of co-existent elements grouped together or distinguished according to their resemblances and differences as so many natural kinds; and of successive events linked together as causes and effects. But while there is no general law of co-existence except such as may be derived from the collocation of the previously existing elements whence they are derived, there *is* a law of causal succession—namely, this, that the quantities of mass and energy involved are conserved without loss or gain through all time. Now, Hegel's way of rationalising, or, in plainer words, accounting for the coexistent elements and their qualities, is to bring them under a supposed law of complementary opposition, revived from Heracleitus, according to which everything necessarily involves the existence, both in thought and reality, of its contradictory. And the same principle is applied to causal succession—a proceeding which would be fatal to the scientific law of conservation.

There is another way of rationalising experience—namely, the theological hypothesis of a supreme intelligence by which the world was created and is governed with a view to the attainment of some ultimate good. And there is a sort of teleology in Hegel evidently inspired by his religious education. But the two do not mean the same thing. For he places conscious reason not at the beginning but at the end of evolution. The rationality of things is immanent, not transcendent. Purposes somehow work retrospectively so as to determine the course of events towards a good end. That end is self-consciousness—not yours or mine, but the world-spirit's consciousness and possession of itself. And this is reached in four ways: in Art by intuition, in Religion by representation, in Philosophy by conception, in History and Politics by the realisation of righteousness through the agency of the modern State.

Hegel looked on this world and this life of ours as the only world and the only life. When Heine pointed to

the starry skies he told the young poet that the stars were a brilliant leprosy on the face of the heavens, and met the appeal for future compensation with the sarcastic observation: "So you expect a trinkgeld for nursing your sick mother and for not poisoning your brother!"

German historians have justly extolled the ingenuity, the subtlety, the originality, the systematising power—unequalled since Aristotle—and the enormous knowledge of their country's chief idealist. But this, after all, amounts to no more than claiming for Hegel that much of what he said is true and that much is new. The vital question is whether what is new is also true—and this is more than they seem prepared to maintain.

Schopenhauer

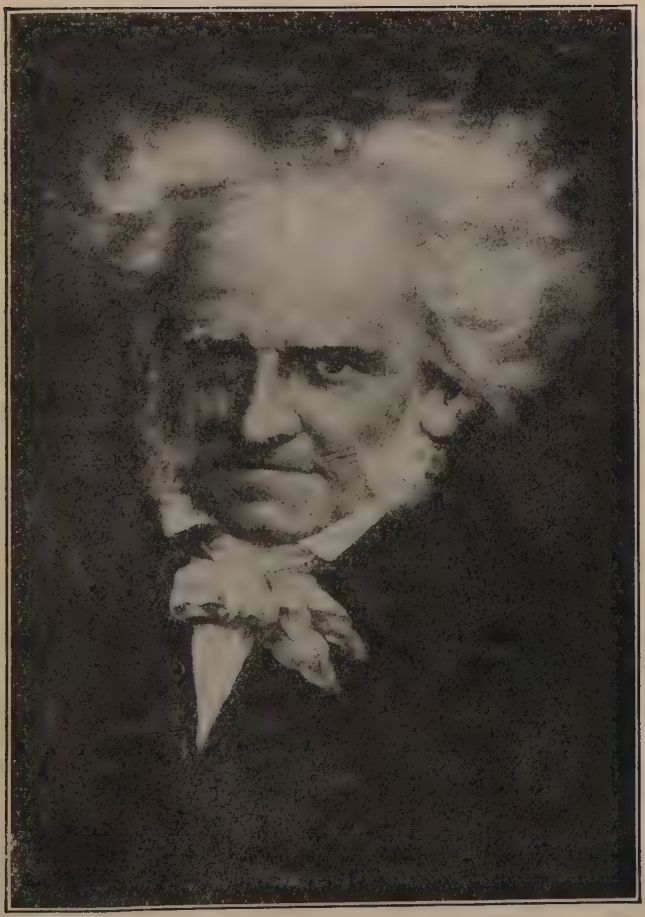
The leaders of the party known in the fourth and fifth decades of the last century as Young Germany, among whom Heinrich Heine (1797–1856) was the most brilliant and famous, were more or less associated with the Hegelian school. They were, however, what Hegel was not, political revolutionists with a tendency to Socialism; while their religious rationalism, unlike his, was openly proclaimed. The temporary collapse in 1849 of the movement they initiated brought discredit on idealism as represented by Germany's classic philosophers, which also had been seriously damaged by the luminous criticism of Trendelenburg, the neo-Aristotelian professor at Berlin (1802–1872).

At this crisis attention was drawn to the long-neglected writings of Arthur Schopenhauer (1788–1860), which then attained a vogue that they never since have lost. The son of a Hamburg banker and of a literary lady whose novels enjoyed some reputation in their day, he was placed from the beginning in a position of greater material and social independence than usually falls to the lot of German thinkers; and to this, combined with the fact that he failed entirely as a university teacher, it is partly due that he wrote about philosophy not like a pedant, but like a man of the world. At the same time the German professors, resenting the intrusion of an

outsider on their privileged domain, were strong enough to prevent the reading public from ever hearing of Schopenhauer's existence until an article in the *Westminster Review* (April, 1853) astonished Germany by the revelation that she possessed a thinker whom the man in the street could understand.

Schopenhauer found his earliest teachers of philosophy in Plato and Kant. He then attended Fichte's lectures at Berlin. At some uncertain date—probably soon after taking his doctor's degree in 1813—at the suggestion of an Orientalist he took up the study of the Vedanta system. All these various influences converged to impress him with the belief that the things of sense are a delusive appearance under which a fundamental reality lies concealed. According to Hegel, the reality is reason; but the Romanticists, with Schelling at their head, never accepted his conclusion, thinking of the absolute rather as a blind, unconscious substance; still less could it please Schopenhauer, who sought for the supreme good under the form of happiness conceived as pleasure unalloyed by pain. A gloomy and desponding temperament combined, as in the case of Byron and Rousseau, with passionately sensuous instincts, and anti-social habits, debarred him from attaining it. The loss of a large part of his private fortune, and the world's refusal to recognise his genius, completed what natural temperament had begun; and it only remained for the philosophy of the Upanishads to give a theoretic sanction to the resulting state of mind by teaching that all existence is in itself an evil—a position which placed him in still more thoroughgoing antagonism to Hegel.

It will be remembered that Kant's criticism had denied the human mind all knowledge of things in themselves, and that the post-Kantian systems had been so many efforts to get at the Absolute in its despite. But none had stated the question at issue so clearly as Schopenhauer put it, or answered it in such luminous terms. Like theirs, his solution is idealist; but the idealism is constructed on new lines. If we know nothing else, we know ourselves; only it has to be



SCHOPENHAUER

ascertained what exactly we are. Hegel said that the essence of consciousness is reason, and that reason is the very stuff of which the world is made. No, replies Schopenhauer, that is a one-sided scholastic view. Much the most important part of ourselves is *not* reason, but that very unreasonable thing called will—that aimless, hopeless, infinite, insatiable craving which is the source of all our activity and of all our misery as well. *This* is the thing-in-itself, the timeless, inextended entity behind all phenomena, come to the consciousness of itself, but also of its utter futility, in man.

The cosmic will presents itself to us objectively under the form of the great natural forces—gravitation, heat, light, electricity, chemical affinity, etc.; then as the organising power of life in vegetables and animals; finally as human self-consciousness and sociability. These, Schopenhauer says, are what is really meant by the Platonic ideas, and they figure in his philosophy as first differentiations of the primordial will, coming between its absolute unity and the individualised objects and events that fill all space and time. It is the function of architecture, plastic art, painting, and poetry to give each of these dynamic ideas, singly or in combination, its adequate interpretation for the æsthetic sense. One art alone brings us a direct revelation of the real world, and that is music. Musical compositions have the power to express not any mere ideal embodiment of the underlying will, but the will itself in all its majesty and unending tragic despair.

Schopenhauer's theory of knowledge is given in the essay by which he obtained his doctor's degree, *On the Four-fold Root of the Sufficient Reason*. Notwithstanding this rather alarming title, it is a singularly clear and readable work. The standpoint is a simplification of Kant's *Critique*. The objects of consciousness offer themselves to the thinking, acting subject as grouped presentations in which there is " nothing sudden, nothing single." (1) When a new object appears to us, it must have a cause, physical, physiological, or psychological; and this we call the reason why it becomes. (2) Objects

are referred to concepts of more or less generality, according to the logical rules of definition, classification, and inference; that is the reason of their being known. (3) Objects are mathematically determined by their position relatively to other objects in space and time; that is the reason of their being. (4) Practical objects or ends of action are determined by motives; the motive is the reason why one thing rather than another is done.

The last "sufficient reason" takes us to ethics. Schopenhauer agrees with Kant in holding that actions considered as phenomena are strictly determined by motives, so much so that a complete knowledge of a man's character and environment would enable us to predict his whole course of conduct through life. Nevertheless, each man, as a timeless subject, is and knows himself to be free. To reconcile these apparently conflicting positions we must accept Plato's theory that each individual's whole fate has been determined by an antenatal or transcendental choice for which he always continues responsible. Nevertheless, cases of religious "conversion" and the like prove that the eternal reality of the Will occasionally asserts itself in radical transformations of character and conduct.

In ethics Schopenhauer distinguishes between two ideals which may be called "relative" and "absolute" good. Relative good agrees with the standard of what in England is known as Universalistic Hedonism—the greatest pleasure combined with the least pain for all sensitive beings, each agent counting for no more than one. Personally passionate, selfish, and brutal, Schopenhauer still had a righteous abhorrence of cruelty to animals; whereas Kant had no such feeling. But positive happiness is a delusion, and no humanity can appreciably diminish the amount of pain produced by vital competition—recognised by our philosopher before Darwin—in the world. Therefore Buddhism is right, and the higher morality bids us extirpate the will-to-live altogether by ascetic practices and meditation on the universal vanity of things. Suicide is not allowed, for while annihilating the intelligence it would not exclude

some fresh incarnation of the will. And the last dying wish of Schopenhauer was that the end of this life might be the end of all living for him.

Herbart

J. F. Herbart (1776–1841) occupies a peculiar position among German idealists. Like the others, he distinguishes between reality and appearance; and, like Schopenhauer in particular, he altogether rejects Hegel's identification of reality with reason. But, alone among post-Kantian metaphysicians, he is a pluralist. According to him, things-in-themselves, the eternal existents underlying all phenomena, are not one, but many. So far his philosophy is a return to the pre-Kantian system of Wolf and Leibniz; but whereas the monads of Leibniz were credited with an inward principle of evolution carrying them for ever onward through an infinite series of progressive changes, Herbart pushes his metaphysical logic to the length of denying all change and all movement to the eternal entities of which reality is made up.

Herbart is entitled to the credit—whatever it may be worth—of devising a system unlike every other in history; for while Hegel has a predecessor in Heracleitus, his rival combines the Eleatic immobilism with a pluralism that is all his own. It is not, however, on these paradoxes that his reputation rests, but on more solid services as a psychologist and an educationalist. Without any acquaintance, as would seem, with the work doing in Britain, Herbart discarded the old faculty psychology, conceiving mentality as made up of " presentations," among which a constant competition for the field of consciousness is going on; and it is to this view that such terms as " inhibition " and " threshold of consciousness " are due. And the enormous prominence now given to the idea of value in ethics may be traced back to the teaching of a thinker whom he greatly influenced, F. E. Beneke (1798–1854).

CHAPTER V

THE HUMANISTS OF THE NINETEENTH CENTURY

The philosophical movement of the nineteenth century, after the collapse of German idealism, has not been dominated by any single master or any single direction to anything like the same extent as its predecessors. But if we are called on to select the dominant note by which all its products have been more or less coloured and characterised, none more impressive than the note of Humanism can be named. As applied to the culture of the Renaissance, humanism meant a tendency to concentrate interest on this world rather than on the next, using classic literature as the best means of understanding what man had been and again might be. At the period on which we are entering human interests again become ascendant; but they assume the widest possible range, claiming for their dominion the whole of experience—all that has ever been done or known or imagined or dreamed or felt. Hegel's inventory, in a sense, embraced all this; but Hegel had a way of packing his trunk that sometimes crushed the contents out of recognition, and a way of opening it that few could understand. Besides, much was left out of the trunk that could ill be spared by mankind.

Aristotle has well said that the soul is in a way everything; and as such its analysis, under the name of psychology, has entered largely into the philosophy of the century. Theory of knowledge, together with logic, has figured copiously in academic courses, with the result of putting what is actually known before the student in a new and interesting light; but with the result also of developing so much pedantry and scep-

ticism as to give many besides dull fools the impression that divine philosophy is both crabbed and harsh.

The French Eclectics.

In the two centuries after Descartes France, so great in science, history, and literature, had produced no original philosopher, although general ideas derived from English thought were extensively circulated for the purpose of discrediting the old order in Church and State. When this work had been done with a thoroughness going far beyond the intention of the first reformers a reaction set in, and the demand arose for something more conservative than the so-called sensualism and materialistic atheism of the pre-revolutionary times. A certain originality and speculative disinterestedness must be allowed to Maine de Biran (1766–1824), who, some years after Fichte—but, as would seem, independently of him—referred to man's voluntary activity as a source of *à priori* knowledge. A greater immediate impression was produced by Royer-Collard (1763–1845), who, as Professor at the Sorbonne in 1811, imported the common-sense spiritualism of Reid (1710–1796) as an antidote to the then reigning theories of Condillac (1715–1780), who, improving on Locke, abolished reflection as a distinct source of our ideas. Then came Victor Cousin (1792–1867), a brilliant rhetorician, and, after Madame de Staël, the first to popularise German philosophy in France. As Professor at the Sorbonne in the last years of the Bourbon monarchy he distinctly taught a pantheistic Absolutism compounded of Schelling and Hegel; but, whether from conviction or opportunism, this was silently withdrawn, and a so-colled eclectic philosophy put in its place. According to Cousin, in all countries and all ages, from ancient India to modern Europe, speculation has developed under the four contrasted forms of sensualism, idealism, scepticism, and mysticism. Each is true in what it asserts, false in what it denies, and the right method is to preserve the positive while rejecting the negative elements of all four. But neither the master

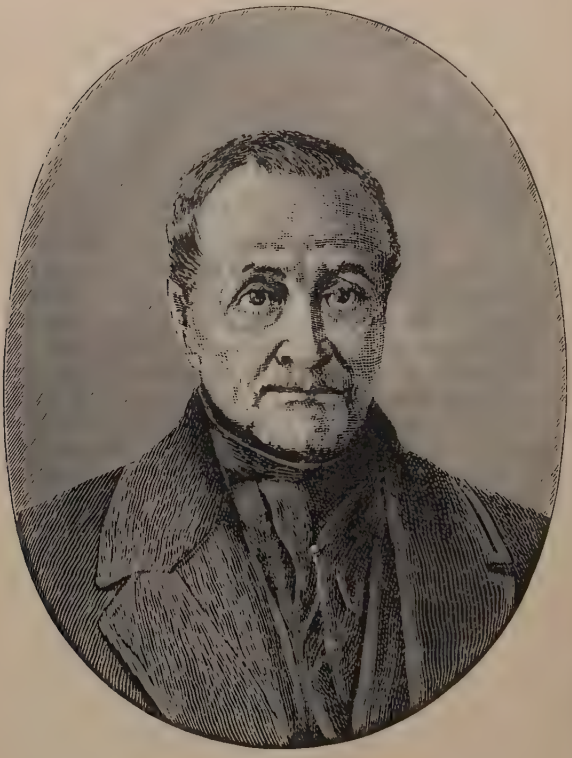
nor his disciples have ever consistently answered the vital question, what those elements are.

Hamilton and the Philosophy of the Conditioned

Among other valuable contributions to the history of philosophy, Victor Cousin had lectured very agreeably on the philosophy of Kant, accepting the master's arguments for the apriorism of space and time, but rejecting his reduction of them to mere subjective forms as against common sense. He had not gone into Kant's destructive criticism of all metaphysics, and this was now to be turned against him by an unexpected assailant. Sir William Hamilton (1788–1856), afterwards widely celebrated as Professor of Logic and Metaphysics at Edinburgh, began his philosophical career by an essay on "The Philosophy of the Conditioned" in the *Edinburgh Review* for October, 1829, controverting the Absolutism both of Cousin and of his master, Schelling. The reviewer had acquired some not very accurate knowledge of Kant in Germany ten years before; and he uses this, with other rather flimsy erudition, to establish the principle that *to think is to condition*, and that therefore the Absolute cannot be thought—cannot be conceived. Hamilton enjoyed the reputation of having read "all that mortal man had ever written about philosophy"; but this evidently did not include Hegel, who certainly had performed the feat declared to be impossible. Thirty years later the philosophy of the conditioned attained a sudden but transient notoriety, thanks to the use made of it by Hamilton's disciple, H. L. Mansel, in his Bampton Lectures on *The Limits of Religious Thought* (1858). The object of these was to prove that, as we know nothing about Things-in-themselves, nothing told about God in the Bible or the Creeds can be rejected *à priori* as incredible. As an apology, the book failed utterly, its only effect being to prepare public opinion for the Agnosticism of Herbert Spencer and Huxley.

Auguste Comte

The brilliant audiences that hung spell-bound on the lips of Victor Cousin as he unrolled before them the



AUGUSTE COMTE

Infinite, the Finite, and the relation between the two, little knew that France's only great philosopher since Descartes was working in obscurity among them. Auguste Comte (1798–1857), the founder of Positivism,

belonged to a Catholic and Legitimist family. By profession a mathematical teacher, he fell early under the influence of the celebrated St. Simon, a mystical socialist who exercised a powerful attraction on others besides Comte. The connection lasted four years, when they quarrelled; indeed Comte's character was such as to make permanent co-operation with him impossible, except on terms of absolute agreement with his opinions and submission to his will. At a subsequent period he obtained some fairly well-paid employment at the École Polytechnique, but lost it again owing to the injurious terms in which he spoke of his colleagues. In his later years he lived on a small annuity made up by contributions from his admirers.

Auguste Comte disliked and despised Plato, altogether preferring Aristotle to him as a philosopher; but it is fundamentally as a Platonist, not as an Aristotelian, that he should himself be classed—in this sense, that he valued knowledge above all as the means towards reconstituting society on the basis of an ideal life. And this is the first reason why his philosophy is called positive—to distinguish it as reconstructive from the purely negative thought of the Revolution. The second reason is to distinguish it as dealing with real facts from the figments of theology and the abstractions of metaphysics. Positive science explains natural events neither by the intervention of supernatural beings nor by the mutual relations of hypostasised concepts, but by verifiable laws of succession and resemblance. Turgot was the first to distinguish the theological, metaphysical, and mechanical interpretations as successive stages of a historical evolution (1750); Hume was the first to single out the relations of orderly succession and resemblance as the essential elements of real knowledge (1739); Comte, with the synthetic genius of the nineteenth century, first combined these isolated suggestions with a wealth of other ideas into a vast theory of human progress set out in the fifth and sixth volumes of his *Philosophie Positive*—the best sketch of universal history ever written.

The positive sciences fall into two great divisions—the concrete, dealing with the actual phenomena as presented in space and time; the abstract, which alone concern philosophy, dealing with their laws. The most important of the abstract sciences is Sociology, claimed by Comte as his own special creation. The study of this demands a previous knowledge of biology, psychology being dismissed as a metaphysical delusion and phrenology put in its place. The science of life presupposes Chemistry, before which comes Physics, presupposing Astronomy, and, as the basis of all, Mathematics divided into the calculus and geometry. At a later period Morality was placed as a seventh fundamental science at the head of the whole hierarchy.

At a first glance some serious flaws reveal themselves in the imposing logic of this scheme. Astronomy as a concrete science ought to have been excluded from the series, its admission being apparently due to the historical circumstance that the most general laws of physics were ascertained through the study of celestial phenomena. But on the same ground geology can no longer be excluded, as its records led to the recognition of the evolution of life; or should evolution be referred to the concrete sciences of zoology and botany, by parity of reasoning human progress should be treated as a branch of universal history—which, in fact, is what Comte makes it in his fifth and sixth volumes. It would have been better had he also studied social statics on the historical method. As it is, the volume in which the conditions of social equilibrium are supposed to be established contains only one chapter on the subject, and that is very meagre, consisting of some rather superficial observations on family life and the division of labour. No doubt the matter receives a far more thorough discussion in the author's later work, *Politique Positive*. But this merely embodies his own plan of reorganisation for the society of the future, and therefore should count not as science, but as art.

The Positivist theory of social dynamics is that all branches of knowledge pass through three successive

stages already described as the theological, the metaphysical, and the scientific. And this advance is accompanied by a parallel evolution on the governmental side from the military to the industrial régime, with a revolutionary or transitional period answering to metaphysical philosophy. To this scheme it might be objected that the parallelism is merely accidental. A scientific view of nature and a profound knowledge of her laws is no doubt far more conducive to industry than a superstitious view; but it is also more favourable to the successful prosecution of war, which, indeed, always has been an industry like another. Nor, to judge by modern experience, does it look as if a government placed in the hands of a country's chief capitalists—which was what Comte proposed—would be less militant in its general disposition than the parliamentary governments which he condemns as "metaphysical." In fact, it is by theologians and metaphysicians that our modern horror of war has been inspired rather than by scientists.

The great idea of Comte's life, that the positive sciences, philosophically systematised, are destined to supply the basis of a new religion surpassing Catholicism in its social efficacy, seems a delusion really inherited from one of his pet aversions, Plato. It arose from a profound misconception of what Catholicism had done, and a misconception, equally profound, of the means by which its priesthood worked. In spite of Comte's denials, the leverage was got not by appeals to the heart, but by appeals to that future judgment with which the preaching of righteousness and temperance was associated by St. Paul, his supposed precursor in religion, as Aristotle was his precursor in philosophy.

The worship of Humanity, or, as it has been better called, the Service of Man, is a great and inspiring thought. Only it is not a religion, but a metaphysical idea, derived by Comte from the philosophers of the eighteenth century, and by them through imperial Rome from the Humanists and Stoics of ancient Athens.

J. S. Mill

John Stuart Mill (1806–1873) was, like Comte, a Platonist in the sense of valuing knowledge chiefly as an instrument of social reform. He was indeed bred up by his father, James Mill (1773–1836), and by Jeremy Bentham as a prophet of the new Utilitarianism as Comte was, to some extent, trained by St. Simon to substitute a new order for that which the Revolution had destroyed. Mill, however, had been educated on the lines of Greek liberty rather than in the tradition of Roman authority; while both were largely affected by the Romanticism current in their youth. The worship of women, revived from the age of chivalry, entered into the romantic movement; and it may be mentioned in this connection that Mill calls Mrs. Taylor, the lady with whom he fell in love at twenty-four and married eighteen years later, " the inspirer and in part the author of all " that was best in his writings; while Comte refers his religious conversion to Madame Clotilde de Vaux, the object of his adoration in middle life. It seems probable, however, from the little we know of Mrs. Taylor—whom Carlyle credits with " the keenest insight and the royallest volition "—that her influence was the reverse of Clotilde's. If anything, she attached Mill still more firmly to the cause of pure reason.

It has been mentioned how Kant's metaphysical agnosticism was played out by Hamilton against Cousin. A little later Whewell, the Cambridge historian of physical science, imported Kant's theory of necessary truth in opposition to the empiricism of popular English thought and Kant's Categorical Imperative in still more express contradiction to Bentham's utilitarian morality. Now Mill, educated as he had been on the associationist psychology and in the central line of the English epistemological tradition, rejected the German apriorism as false in itself, while more particularly hating it as, in his opinion, a dangerous enemy to all social progress. For to him what people called their intuitions, whether theoretic or practical, were merely the time-honoured

prejudices in which they had been brought up, and the contradictory of which they could not conceive. Comte similarly interpreted the metaphysical stage of thought as the erection into immutable principles of certain abstract ideas whose value—if they had any—was merely relative and provisional. Mill, with his knowledge of history, might have remembered that past thought, beginning with Plato, shows no such connection between intuitionism and immobility or reaction, while such experientialists as Hobbes and Hume have been political Tories. But in his own time the *à priori* philosophy went hand in hand with conservatism in Church and State, so he set himself to explode it in his *System of Logic* (1843).

Mill's *Logic*, the most important English contribution to philosophy since Hume, is based on Hume's theory of knowledge, amended and supplemented by some German and French ideas. It is conceded to Kant that mathematical truths are synthetic, not analytic. It is not contained in the idea of two and two that they make four nor in the idea of two straight lines that they cannot enclose a space. Such propositions are real additions to our knowledge; but it is only experience that justifies us in accepting them. What constitutes their peculiar certainty is that they can be verified by trial on imagined numbers and lines, without reference to external objects. But by what right we generalise from mental experience to all experience Mill does not explain. Hume's analysis of causation into antecedence and sequence of phenomena is accepted by Mill as it was accepted by Kant; but the law that every change must have a cause is affirmed, in adhesion to Dr. Thomas Brown (1778–1820), with more distinctness than by Hume. As Laplace put it, the whole present state of the universe is a product of its whole preceding state. But we only know this truth by experience; and we can conceive a state of things where phenomena succeed one another by a different law or without any law at all. Mill himself was ready to believe that causation did not obtain at some very remote point of space; though what difference remote-

ness could make, except we suppose it to be causal—which would be a reassertion of the law—he does not explain; nor yet what warrant we have for assuming that causation holds through all time, or at any future moment of time.

Next to the law of universal causation inductive science rests on the doctrine of natural kinds. The material universe is known to consist of a number of substances—namely, the chemical elements and their combinations, so constituted that a certain set of characteristic properties are invariably associated with an indefinite number of other properties. Thus, if in a strange country a certain mineral answers the usual tests for arsenic, we know that a given dose of it will destroy life; and we are equally certain that if the spectroscopic examination of a new star shows the characteristic lines of iron, a metal possessing all the properties of iron as we find it in our mines is present in that distant luminary. According to Mill, we are justified in drawing that sweeping inference on the strength of a single well-authenticated observation, because we know by innumerable observations on terrestrial substances that natural kinds possessing such index qualities do exist, whereas there is not a single instance of a substance possessing those qualities without the rest.

For Mill, as for Hume, reality means states of consciousness and the relations between them. Matter he defines as a permanent possibility of sensation; mind as a permanent possibility of thought and feeling. But the latter definition is admittedly not satisfactory. For a stream of thoughts and feelings which is proved by memory to have the consciousness of itself seems to be something more than a mere stream. All explanations must end in an ultimate inexplicability. God may be conceived as a series of thoughts and feelings prolonged through eternity; and it is a logically defensible hypothesis that the order of nature was designed by such a being, although the amount of suffering endured by living creatures excludes the notion of a Creator at once beneficent and omnipotent. And if the Darwinian

theory were established, the case for a designing intelligence would collapse. Personally Mill believed neither in a God nor in a future life.

In morals Mill may be considered the creator of what Henry Sidgwick, in his *Methods of Ethics* (1874), called Universalistic Hedonism. The English moralists of the eighteenth century had set up the greatest happiness of the greatest number as the ideal end of action; but they did not hold that each individual could be expected to pursue anything but his own happiness; the object of Bentham (1748–1832) being to make the two coincide. Kant showed that the rule of right excluded any such accommodation, and a crisis in his own life led Mill to adopt the same conclusion. Afterwards he rather confused the issues by distinguishing between higher and lower pleasures, leaving experts to decide which were the pleasures to be preferred. The universalistic standard settles the question summarily by estimating pleasures according to their social utility.

Mill fully sympathised with Comte's demand for social reorganisation as a means towards the moral end. But, with his English and Protestant traditions, he had no faith in the creation of a new spiritual power with an elaborate religious code and ritual as the best machinery for the purpose. In his opinion, the claims of the individual to extended liberty of thought and action, not their restriction, were what first needed attention. Second to this—if second at all—came the necessity for reforming representative government on the lines of an enlarged franchise and a readjusted electoral system with plural suffrage determined by merit, votes for women, and a contrivance for giving minorities a weight proportioned to their numbers. The problem of poverty was to be dealt with by restrictions on the increase of population and on the amount of inheritable property, the maximum of which ought not to exceed a modest competence.

Among the noble characters presented by the history of philosophy we may distinguish between the heroic and the saintly types. To the former in modern times belong

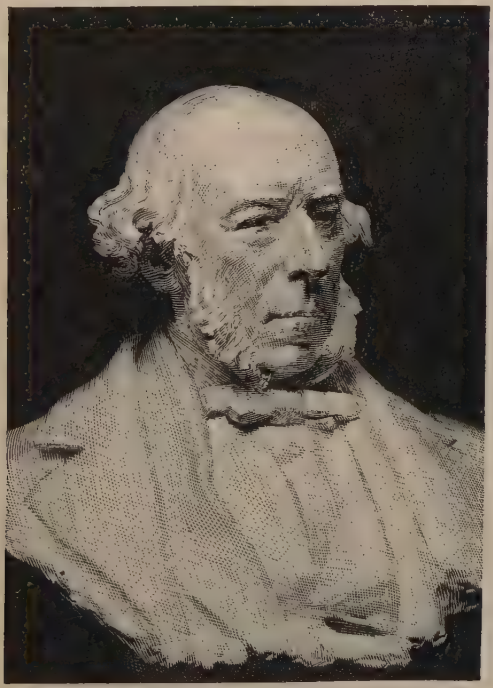
Giordano Bruno, Fichte, and to some extent Comte; to the latter, Spinoza, Berkeley, and Kant. To the second class we may surely add John Stuart Mill, whom Gladstone called "the saint of rationalism," and of whom Auguste Laugel said, "He was not sincere—he was sincerity itself."

Herbert Spencer

Herbert Spencer (1820–1903) was the son of a Nonconformist country schoolmaster, but was educated chiefly by his uncle Thomas, an Evangelical clergyman of the Church of England. A radical reformer of the old school, Thomas Spencer seems to have indoctrinated his youthful charge with the germinal principles afterwards generalised into a whole cosmic philosophy. He had a passion for justice realised under the form of liberty, individual responsibility, and self-help. In his opinion, until it was modified by private misfortunes, everything served everybody right. Beginning as an economical administrator of the new Poor Law, he at last became an advocate of its total abolition; and, alone among fifteen thousand clergymen, he was an active member of the Anti-Corn Law League, besides supporting the separation of Church and State. At twenty-two Herbert Spencer accepted and summed up this policy under the form of a general hostility to State interference with individual liberty, supporting it by a reference to the reign of Natural Law in all orders of existence. In his first great work, *Social Statics*, the principle of *laissez-faire* received its full systematic development as the restriction of State action to the defence of liberty against internal and external aggression, the raising of taxes for any other purpose being unjust, as is also private ownership of land, which is by nature the common heritage of all. Spencer subsequently came to abandon land nationalisation, probably from alarm at its socialistic implications.

The doctrine of natural law and liberty carried with it for Spencer a strong repugnance not only to protectionism in politics, but also to miracles in theology. The profession of journalism brought him into touch with a

freethinking set in London. Whether under their influence, or Shelley's, or by some spontaneous process, his religious convictions evaporated by twenty-eight into the agnosticism which thenceforth remained their



HERBERT SPENCER

permanent expression. There might or not be a First Cause; if there was, we know nothing about it. At this stage Lyell's attempted refutation of Lamarck converted Spencer to the belief in man's derivation from some lower animal by a process of gradual adaptation. Thus the scion of an educationalist family came to

interpret the whole history of life on our planet as an educative process.

It seemed, however, as if there was one fatal exception to the scheme of naturalistic optimism. The Rev. Thomas Malthus had originally published his *Essay on Population* (1798) as a telling answer to the "infidel" Godwin's *Political Justice* (1793), the bolder precursor of *Social Statics*. The argument was that the tendency of population to outrun the means of subsistence put human perfectibility out of the question. It had been suggested by the idealists, Mill among the number, that the difficulty might be obviated by habitual self-restraint on the part of married people. But Spencer, with great ingenuity, made the difficulty its own solution. The pressure of population on the means of subsistence is the source of all progress; and of progress not only in discoveries and inventions, but also, through its increased exercise, in the instrument which effects them—that is, the human brain. Now, it is a principle of Aristotle's, revived by modern biology, that individuation is antagonistic to reproduction; and increasing individuation is the very law of developing life, shown above all in the growing power of life's chief instrument, which is thought's organ, the brain. For, as Spencer proceeded to show in his next work, the *Principles of Psychology*, life means a continuous series of adjustments of internal to external relations. Therefore the rate of multiplication must go on falling with the growth of intellectual and moral power until it only just suffices to balance the loss by death. The next step was to revive Laplace's nebular hypothesis, and to connect it through Lyell's uniformitarian geology with Lamarck's developmental biology, thereby extending the same evolutionary process through the whole history of the universe.

Nor was this all. Milne-Edwards, by another return to Aristotle, had pointed to the "physiological division of labour" as a mark of ascending organic perfection, to which Spencer adds integration of structure as its obverse side, at the same time extending the world-law, already made familiar in part through its industrial

applications by Adam Smith, to all orders of social activity. Finally, differentiation and integration were stretched back from living to lifeless matter, thus bringing astronomy and geology, which had already entered into the causal series of cosmic transformations, under one common law of evolution; while at the same time, seeing it to be generally admitted that inorganic changes originated from the operation of purely mechanical forces, they suggested that mechanism, without teleology, could adequately explain organic evolution also.

Finally came the great discovery of Darwin and Wallace, with its extension of Malthus's law to the whole world of living things. Spencer had just touched, without grasping, the same idea years before. He now gladly accepted Natural Selection as supplementing without superseding Lamarck's theory of spontaneous adaptation.

To complete even in outline the vast sweep of his projected Synthetic Philosophy two steps more remained for Spencer to take. The law of evolution had to be brought under the recently-discovered law of the Conservation of Energy, or, as he called it, the Persistence of Force, and the whole of unified science had to be reconciled with religion. The first problem was solved by interpreting evolution as a redistribution of matter and motion—a process in which, of course, energy is neither lost nor gained. The second problem was solved by reducing faith and knowledge to the common denominator of Agnosticism—a method that found more favour with Positivists (in the wide sense) than with Christian believers.

Herbert Spencer was disappointed to find that people took more interest in the portico (as he called it in a letter to the present writer)—that is to say, the metaphysical introduction to his philosophical edifice—than in its interior. He probably had some suspicion that the portico was mere lath and plaster, while he felt sure that the columns and architraves behind it were of granite. The public, however, besides their perennial interest in

religion, might be excused for giving more attention to even a baroque exterior with some novelty about it than to the formalised eclecticism of what stood behind it. Unfortunately, they soon found that the alleged reconciliation was a palpable sham. Religion is nothing if not a revelation, and an unknowable God is no God at all. Even the pretended proofs of that poor residual deity involved their author in the transparent self-contradiction of calling the universe the manifestation of an Unknowable Power. Then the relations between this Power (such as it was) and the Energy (or Force) whose conservation (or persistence) was the very first of First Principles seemed hard to adjust. Either energy is created, or it is not. In the one case, what becomes of its eternity? in the other case, what need is there to assume a Power (knowable or not) behind it? Science will not shrink back before such a phantom, nor will Religion adore it.

Such faulty building in the portico prepares us for somewhat unsteady masonry within; and in fact none holds together except what has been transported bodily from other temples. In the past history of the universe, considered as a " rearrangement of matter and motion," disintegration and assimilation play quite as great a part as integration and differentiation. Such formulas have no advantage over the metaphysical systematisation of Aristotle, and they give us as little power either to predict or to direct. Will war be abolished at some future time, or property equalised or abolished, or morality exalted, or religion superseded? Spencer was ready with his answer; but the law of evolution could not prove it true. Nevertheless, his name will long be associated with evolution as a world-wide process, though neither in the way of original discovery nor of complete generalisation and far less of successful application to modern problems; but rather of diffusion and popularisation, even as other valuable ideas have been impressed on the public mind by other philosophies at a vast expense of ingenuity, knowledge, and labour, but not at greater expense than the eventual gain has been worth.

The English Hegelians

Hegel's philosophy first drew attention in England through its supposed connection with Strauss's mythic theory of the Gospels and Baur's theory of New Testament literature as a product of party conflicts and compromises in the primitive Church. Rightly interpeted as a system of Pantheism, it was decried and ridiculed by orthodox theologians in the name of religion and common sense, while cherished by the advanced Broad Church as a means of symbolising away the creeds they continued to repeat. Then the triumph of Spencer's Agnosticism in the middle Victorian period (1864–1874) suggested an appeal to a logic whose object had been to resolve the negations of eighteenth-century enlightenment in the synthesis of a high unity. The first pronouncement in this sense was *The Secret of Hegel* (1865), by Dr. Hutchison Stirling (1820–1909), a writer of geniality and genius, who, writing from the Hegelian standpoint, tried to represent the English rationalists of the day as a superficial and retrograde school. It was a bold but unsuccessful attempt to plant the banner of the Hegelian Right on British soil. By attacking Darwinism Stirling put himself out of touch with the general movement of thought. Professor William Wallace (1844–1897), John Caird (1820–1898), and his brother Edward Caird (1835–1908) inclined more or less to the Left, as also did Lord Haldane (1856–1928) in his *Gifford Lectures* (1903); and all have the advantage over Stirling of writing in a clearer if less picturesque style.

T. H. Green (1836–1882) is sometimes quoted as a Hegelian, but his intellectual affinities were rather with Fichte. According to him, reality is the thought of an Eternal Consciousness, of which personality need not be predicated, while the endless duration of personal spirits seems to be denied. Another idealist, F. H. Bradley (1846–1924)—perhaps the greatest living English thinker—develops in his *Appearance and Reality* (1893) a metaphysical system which, though Absolutist in form, is, to me at least, in substance practically indistin-

guishable from the dogmatic Agnosticism of Herbert Spencer and even more destructive of the popular Theism. Finally the writings of Dr. J. E. McTaggart (*d.* 1925), teaching as they do a doctrine of developmental personal immortality without a God, show a tendency to combine Hegel with Lotze.

The German Eclectics

By general consent the most serious and influential of German systematic thinkers since Hegel is R. H. Lotze (1817–1881). His philosophy is built up of materials derived in varying proportions from all his German predecessors, the most distinctive idea being pluralism, probably suggested in the first instance by Herbart, whom he succeeded as Professor at Göttingen. But Lotze discards the rigid monads of his master for the more intelligible soul-substances of Leibniz—or rather of Bruno—whose example he also follows in his attempt to combine pluralism with monism. Very strenuous efforts are made to give the unifying principle the character of a personal God; but the suspicion of a leaning to Pantheism is not altogether eluded.

More original and far more uncompromising is the work of Ed. v. Hartmann (1842–1906). Personally he enjoyed the twofold distinction—whatever it may be worth—of having served as an officer for a short time in the Prussian army, and of never having taught in a university. His great work, published at twenty-seven, appeared under the telling title of the *Philosophy of the Unconscious*. It won immediate popularity, and reached its eleventh edition in 1904. Hartmann adopts, with some slight attenuation, Schopenhauer's pessimism, and his metaphysics with a considerable emendation. In this new version the world is still conceived as Will and Representation; but whereas for Schopenhauer the intellective side had been subordinated to the volitional, with Hartmann the two are co-equal and intimately united, together forming that " Unconscious " which is the new Absolute. In this way Reason again becomes, what it had been with Hegel, a great cosmic principle;

only as the optimistic universe had argued itself *into* existence, so conversely the pessimistic universe has to argue itself *out of* existence. As in the process of developing differentiation, the volitional and intellective sides draw apart, the Unconscious becomes self-conscious, and thus awakens to the terrible mistake it committed in willing to be. Thenceforth the whole of evolution is determined by the master-thought of how not to be. The problem is how to annul the creative Will. And the solution is to divide it into two halves so opposed that the one shall be the negation and destruction of the other. There will be then, not indeed a certainty, but an equal chance of definitive self-annihilation and eternal repose. Thus, the immediate duty for mankind, as also their predestined task, is the furtherance of scientific and industrial progress as a means towards this consummation, which is likewise their predestined end. A religious colouring is given to the process by representing it as an inverted Christian scheme in which man figures as the redeemer of God—*i.e.* the Absolute —from the unspeakable torments to which he is now condemned by the impossibility of satisfying his will.

Like Hartmann, Friedrich Nietzsche (1844–1900), the greatest writer of modern Germany, took his start from Schopenhauer, but broke with pessimism at an early date, having come to disbelieve in the hedonism on which it is founded. His restless vanity drove him to improve on Darwinism by interpreting evolution as the means towards creating what he called the Superman—that is, a race as much superior to us as we are to the apes. Progress, however, is not to be in the direction of a higher morality, but of greater power—the Will-to-Power, not the Will-to-Live, being the essence of what is. Later in life Nietzsche revived the Stoic doctrine that events move, and have moved through all time, in a series of recurring cycles, each being the exact repetition of its predecessor. It is a worthless idea, and Nietzsche, who had been a Greek professor, must have known where he got it; but the megalomania to which he eventually succumbed prevented his recognising the

debt. By a merited irony of fate this worshipper of the Napoleonic type will survive only as a literary moralist in the history of thought.

The modern revolt against metaphysical systemisation, with or without a theological colouring, took in Germany the form of two distinct philosophical currents. The first is scientific materialism, or, as some of its advocates prefer to call it, energism. This began about 1850, but boasts two great representatives, the biologist Haeckel and the chemist Ostwald. In their practical aims these men are idealists; but their admission of space and time as objective realities beyond which there is nothing, and their repudiation of agnosticism, distinguished them from the French and English Positivists. The other and more powerful school is known as Neo-Kantianism. It numbers many adherents in the German universities, and also in those of France and Italy, representing various shades of opinion united by a common reference to Kant's first Critique dissociated from its concessions to deism, as the true starting-point of modern thought.

The Latest Developments

Since the beginning of the twentieth century the interest in philosophy and the ability devoted to its cultivation have shown no sign of diminution. Two new doctrines in particular have become subjects of world-wide discussion. I refer to the theory of knowledge called Pragmatism, and to the metaphysics of Professor Henri Bergson. Both are of so revolutionary, so contentious, and so elusive a character as to preclude any discussion or even outline of the new solutions for old problems which they claim to provide. But I would recommend the study of both, and especially of Bergson, to all who imagine that the possibilities of speculation are exhausted, or that we are any nearer finality and agreement than when Heracleitus first glorified war as the father of all things, and contradiction as the central spring of life.

CHAPTER VI

RECENT PHILOSOPHY

By Robert Arch

At the end of last century scientific Materialism and Idealistic Monism confronted one another as two independent modes of thought. Theoretically they were opposed; practically they had a great deal in common. The formal separation of science and philosophy dated from the eighteenth century, when Berkeley's treatment of matter and Hume's treatment of cause and effect forced philosophers to address themselves to questions which scientists could afford to ignore. By reducing the external world to a system of percepts, Berkeley put the initial assumptions of natural science on their trial. By reducing the notion of cause and effect to a mere habitual association of ideas, Hume made it logically impossible to infer the past or to predict the future. The man of science, like the proverbial theologian, "looked the difficulties in the face and passed on." He might have said, parodying Dr. Johnson: "We know that causation exists, and there's an end of it." He was justified, for his inferences and predictions worked. The philosopher, however, had to tackle the logical conundrum. This led, through the work of Kant and his successors, to various systems of Idealism, the common feature in all of which was to identify mind, in its ultimate essence, with the universe itself. Idealism of this brand, though formally opposed to Materialism, has, if candidly expounded, important points of contact with it. Both exclude belief in a God transcending the world; both regard the course of events in time as unalterably determined; both reduce the finite individual

to an evanescent mode of the one and only reality. Whether that reality be labelled matter or spirit can hardly affect this particular result.

Idealism, however, lends itself to verbal reconciliation with orthodoxy, while Materialism does not; and the temptation to offer and accept such verbal reconciliations is always strong in universities which are directly or indirectly under clerical control. Hence the English Hegelian movement was popular in ecclesiastical circles, until the publication of Bradley's *Appearance and Reality* showed that the reconciliation with orthodoxy had never been, and could never be, more than a verbal trick. Since then the tendency has been for Idealism to become more and more nakedly unorthodox.

Even before the appearance of Bradley's *magnum opus*, the bluff of the would-be apologists had been called by E. Belfort Bax (1854–1926), who in a series of works extending over many years (*Handbook of the History of Philosophy*, 1885; *The Real, the Rational, and the Alogical*, 1920) stressed the element of feeling and will (or, as he put it, the "alogical") as against the Hegelian tendency to find in thought or knowledge the sole foundation of the real. This was an approach, in some respects, to the position taken up by Schopenhauer and Von Hartmann, but without those thinkers' pessimism. With this insistence on irrational *drive* as an ultimate fact in the universe Bax combined a belief in the reality of chance as opposed to law. Every concrete event, he maintained, contained in itself two elements: a logical element, which could be seized by thought, explained on scientific lines as the inevitable result of antecedents, and, if still in the future, predicted; and an alogical element, which could be neither explained by antecedents nor predicted beforehand, and which amounted, in fact, to chance. Both were ultimate "roots of reality," but chance somehow lay deeper than law. Bax's thought was further distinguished by his remarkable speculation on the possible future emergence of a corporate social consciousness, which would integrate individual lives in the same way as the individual life

integrates the lives of the cells which make up the body.

Emphasis on the " alogical " has been carried to more sensational conclusions by Henri Bergson (*Essay on the Immediate Data of Consciousness*, 1889; *Creative Evolution*, 1907), who denies altogether the ultimate validity of intellectual judgments. For him, as for Schopenhauer, the thing-in-itself, whether in man or in external nature, is irrational impulse—the *élan vital*. Bergson, however, parts company with nearly all previous philosophers in his treatment of time. For the Idealist school in general time is only a form under which mind, essentially timeless, enjoys self-consciousness. For Bergson, on the contrary, the impulse behind all things *is* time—is, in fact, the only time worthy of the name. The time with which science deals, and which we measure by clocks, is a figment of the intellect, made in the image of space, and like space unreal. The attempt to treat it as real is the source of all those puzzles and contradictions, such as that of Achilles and the tortoise, which have vexed philosophers since philosophy began. True time, the time which (so to speak) we " feel in our bones," cannot be divided or measured, indeed cannot be seized at all by thought, but only by intuition. For, according to Bergson, intuition is able to grasp ultimate reality, which intellect only falsifies. Intelligence is an instrument evolved by one kind of living beings, the vertebrates, to aid them in coping with their environment, and has a certain utility in that restricted sphere. Other creatures (*e.g.* insects) do very well without it; and there is no reason to suppose that it can throw any light on the profounder riddles of existence. Bergson supports his theory by biological examples, some of which have been challenged on the score of inaccuracy. The reader will easily see the difficulties of a philosophy which thus attempts to discredit the very instrument with which it operates.

The chief names in the later history of Idealism are those of the Italians, Benedetto Croce and Giovanni Gentile. These thinkers adhere to the view of mind,

or spirit, as the essence of reality, but, like Schopenhauer and Bax, repudiate any belief in a personal and providential God. Both insist on the ultimate reality of time, and on the extreme importance, therefore, of history as the progressive attainment of self-consciousness by the world-spirit.

Before the turn of the century, however, a breakaway from the whole position of Idealistic Monism had begun. William James (1842–1910), the eminent American psychologist, was in his philosophy (*The Will to Believe*, 1897; *A Pluralistic Universe*, 1909) concerned first and last with the rehabilitation of personal free-will and, if possible, personal immortality, both of which Idealistic Monism and scientific Materialism alike excluded. He repudiated, therefore, the whole theory of knowledge constructed by Kant and his successors. According to that theory our knowledge of truths (*e.g.*, those of mathematics) which are independent of particular place and time was due to the fact that the world in space and time was in its ultimate essence one with mind and subject to immutable laws by the fact of its unity with mind. Kant himself, however, distinguished between theoretical reason, which obliged us to regard events as immutably determined, and practical reason, which obliged us to assume that moral choice was free. Freedom was for Kant a *practical postulate*. What James did was to jettison the theoretical part of Kant's philosophy, and extend the practical part to cover knowledge as well as action. All beliefs thus become practical postulates. The test of the truth of a belief is simply its *working*. Where evidence is inconclusive, we are free to hold the belief which works best—*i.e.*, which helps us best in life. In dealing with the physical world we assume immutable laws, because that belief helps us to influence physical events; but in dealing with ourselves we are at liberty to believe in free-will and immortality if that helps us to live our lives. Truth is utility, and utility is truth.

It will be seen that this doctrine, known as Pragmatism, has important features in common with Berg-

son's philosophy—notably its reduction of logical judgment to a mere means by which mind reacts to situations. Bergson, however, remains essentially an Idealistic Monist; his *élan vital*, like the "will" of Schopenhauer, is a single, indivisible agent, the same in all individuals, and matter is conceived (rather obscurely) as a sort of degradation or by-product of mind. The Pragmatists, on the other hand, throw Monism to the winds; mind, for them, means the finite personality only, and truth is what works for the individual. It follows that, according to Pragmatism, every individual has his own truth, and is entitled to his own philosophy. Though originally invoked by James as an instrument of religious apologetic, such a doctrine, pressed to its conclusions, can only end in entire scepticism. Its principal living exponents are F. C. S. Schiller in England and John Dewey in America, Schiller (*Axioms as Postulates*, in the symposium *Personal Idealism*, 1903; *Logic for Use*, 1929) representing the conservative and apologetic tendency in Pragmatism, and Dewey (*Studies in Logical Theory*, 1903; *Experience and Nature*, 1925) its radical and sceptical side.

Consideration of Bergsonism and Pragmatism raises one question to which those systems do not seem to provide a satisfactory answer. Unless our judgments represent, in some sense, a world of facts independent of them, how can they possess even practical validity? If, as Bergson says, the intellect only falsifies reality, whence comes its survival value? If, as the Pragmatists say, thought is an instrument by which we react on our surroundings, must not the essential forms of thought, by that very fact, tell us something of the general nature of those surroundings? Would the world be even a "practical postulate" if it were not something *more* than a practical postulate?

On the side of religion, the conviction gained ground that the defence of the cherished convictions of the "plain man" must rest on less sandy foundations than those afforded by Idealism or Pragmatism. Certain Oxford philosophers—*e.g.*, Thomas Case (author of the

article *Metaphysics* in several editions of the *Encyclopædia Britannica*), J. Cook Wilson, and H. A. Prichard (*Kant's Theory of Knowledge*, 1909)—accordingly jettisoned not only Kant but Berkeley, and, reverting to the hard-and-fast Dualism of Descartes, insisted on the complete mutual independence of perceived objects and the perceiving mind. The Realism thus proclaimed has had very different results from those intended by its originators. Its first effect was to raise anew the problem of the relative status of "primary" and "secondary" qualities. Granting the independence of physical objects, are all the qualities which appear to us to belong to them real features of those objects; or are primary qualities (extension and resistance) real, and secondary (colour, sound, warmth, etc.) only apparent? The Oxford Realists took the latter and more ordinary view. This, however, raised obvious difficulties; for it is hard, if not impossible, to think of primary qualities without any kind of secondary qualities attached, and no less hard to define the status of secondary qualities if these belong neither to the perceiving mind nor to the perceived object. Realist philosophers soon arose, therefore, who asserted that both kinds of qualities were properties of physical objects and independent of any perceiving mind.

Nor, in the end, has it been possible to harness Realism in the service of established religion. Many thinkers with a strong bent towards scientific Materialism see in it an answer to the conundrum which has dogged thought since the days of Berkeley. They accept and emphasize the independence and ultimate reality of physical objects, and are by no means disposed to trouble overmuch about the complementary doctrine of the independence and ultimate reality of perceiving minds. Samuel Alexander, the most commanding exponent of the "New Realism," has propounded a philosophy (*Space, Time and Deity*, 1920) in which the primary substance of reality is space and time, or "space-time." From this has emerged matter, with its primary and secondary qualities; from matter, at a later stage, has emerged mind; and from

mind will eventually emerge "deity"—a mode of existence as far transcending mind as mind transcends matter, and matter mere space-time. The reader will note a resemblance between this speculation and Bax's theory of the emergence of a corporate mind. By Alexander, however, as by other Neo-Realists, the non-dependence of space, time, and matter on the perceiving mind is accepted with "natural piety."

In describing Bax's and Alexander's systems use has been made of the word "emerge." This requires a brief explanation. Science, from the time of Galileo, sought to interpret the physical world in terms of material particles moving according to mathematical laws; and those philosophers and men of science who were Materialists sought to extend this interpretation to the mental world. In the spheres of physics and astronomy the attempt met with all but unlimited success—success which made it difficult for the ordinary man to take seriously the logical difficulties raised by Berkeley, Hume, and succeeding philosophers. It was obvious, however, even at the end of the nineteenth century, that there were stumbling-blocks, quite apart from the theory of knowledge, which scientific Materialism had not surmounted.

Firstly, science purports to explain the secondary qualities of objects (colour, sound, warmth, etc.) as the effect of invisible movements. Now, experiment gives good reasons for believing that invisible particles (molecules, atoms, electrons, and protons) exist, and that their movements are connected by ascertainable laws with our perception of secondary qualities. But it cannot be shown *why* etherial or material vibrations of a certain frequency should produce a certain colour, a certain sound, or a certain feeling of warmth or cold, in the same sense that it can be shown why the binomial theorem is true, or why the earth moves round the sun in an approximate ellipse. In the last two cases the theorem to be demonstrated is, or can be reduced to, a mathematical equation; in the case of secondary qualities it cannot, for the facts to be correlated differ in *kind*.

Secondly, the laws of chemistry are not, so far as can be seen at present, explicable by the laws of physics. The chemist finds that two volumes of hydrogen gas invariably combine with one volume of oxygen gas to form water; and in order to explain this he credits each oxygen atom with an "affinity" for two atoms of hydrogen—he says that oxygen is "divalent" and hydrogen "monovalent." But nothing which the physicist tells us of the electrical constitution of oxygen and hydrogen atoms shows *why* oxygen should necessarily be divalent and hydrogen monovalent.

Thirdly, the facts of life and consciousness are inexplicable by the laws of physics and chemistry. Life is purposive; the very conception in which Darwin found the key to organic evolution, the conception of the "struggle for existence," presupposes structures which *try* to go on existing. There is nothing in the facts dealt with by the physicist or chemist, as such, from which this struggle can be deduced. The same applies in a more signal degree to consciousness and knowledge. Here, again, experiment gives good reasons for believing that our mental processes are invariably connected with physical or chemical changes in the brain. But it cannot be shown *why* movements of particles in the brain should produce that unique relation between ourselves and the external world which we call knowledge or awareness.

Cautious thinkers, therefore, have abandoned the attempt to explain the entire universe in terms of matter and motion. The Materialist is, of course, at liberty to restate his doctrine in any form which he believes to be unassailable by logical criticism; but the old Materialism of La Mettrie, D'Holbach, Cabanis, and Moleschott is dead. Philosophers who recognize this fact have adopted the word "emergence" to indicate that, though consciousness presupposes organic life, life chemical compounds, and chemical combination the physical atom, yet in none of these cases can the later phenomenon be deduced from the earlier. In such a case the later phenomenon is said to "emerge" from the earlier, and

the whole series is called *emergent* evolution, in order to distinguish it from *mechanical* evolution—the mere rearrangement of matter in space and time—to which Herbert Spencer, for example, sought to reduce the cosmic process. The philosophy of Alexander, as we have seen, is a theory of emergence. Other notable exponents of emergent evolution include C. Lloyd Morgan, the originator of the term, and C. D. Broad (author of *The Mind and its Place in Nature*, 1925). It may be questioned whether the doctrine of emergence really does more than affix a new label to the problem.

Philosophy has been further affected by the adoption in physics of the theory of relativity, which pronounces the geometrical framework provided by Euclid no longer adequate to scientific needs. Galileo and Newton accepted that framework unquestioningly from the ancients. Modern philosophers took it over, equally without question, from the scientists; most of them, in fact, believed with Kant that Euclid's axioms were part of the original make-up of the mind, and were known by pure intuition. Now, it has been notorious for centuries that, at least in one case, Euclid assumes a proposition which requires proof—namely, his celebrated twelfth axiom. This, reduced to simpler terms than he actually employs, is to the effect that through a given point one, and only one, straight line can be drawn parallel to a given straight line—parallels having been previously defined as straight lines in the same plane which never meet however far they are produced. Not only does Euclid not prove this, but subsequent attempts to prove it without, in effect, begging the question have not been successful. Finally, various nineteenth-century mathematicians showed that alternative geometries could be framed which dispensed with this axiom and yet squared with our experience so far as it went. These non-Euclidean geometries remained, however, "castles in the air" until the theory of Einstein gave them a new importance.

Linked with the assumptions of Euclidean geometry were those of Newtonian mechanics. Newton taught

that every body continued in a state of rest, or of uniform motion in a straight line, unless acted on by a force; and he interpreted gravitation as an attractive force exercised by every body on every other body in the universe. The law of gravitation formulated by Newton successfully accounted for most of the observed motions of the bodies composing the solar system, and the stars composing binary systems; but it involved the anomalous conception of action at a distance, and moreover failed to account for a certain minute peculiarity in the orbit of Mercury.

Einstein's theory of relativity not only satisfactorily explained the known difficulty with regard to Mercury, but predicted results which were subsequently verified in connection with the apparent displacement of stars during a solar eclipse, and the "shift" of lines in the solar spectrum. It has therefore met with general acceptance. Now, Einstein's theory involves the abandonment of the theory of space and time as mutually independent, and acceptance of the propositions—firstly, that the physical world is a four-dimensional continuum, from which each observer constructs his own space and time according to his motion relative to other observers; and, secondly, that the geometry of this four dimensional "space-time" deviates from Euclidean geometry in the neighbourhood of particles of matter; such particles being, in fact, in their geometrical aspect nothing but "bends" in space-time. The theory explains the motion of bodies under gravitation as the motion which involves least action in a non-Euclidean continuum. It thus avoids the anomaly of assuming action at a distance.

Although Einstein himself disclaims for his theory any philosophical as distinct from scientific significance, its reactions on philosophy have been great. It is the business of philosophers to find an interpretation for such conceptions as "a curved four-dimensional space-time." For mathematicians it is sufficient if their equations are correct, and if predictions based on them are verified. As Whitehead says in his *Introduction to*

Mathematics, the terms employed by the mathematician do not necessarily mean what common sense supposes that they mean; like Humpty Dumpty in *Alice in Wonderland*, " he pays them extra and makes them mean what he likes." The philosopher, however, accepting the results as valid, has to find in the terms employed a meaning with some intelligible relation, however indirect, to actual experience. In the case of the theory of relativity the terms used manifestly do not describe the world as we perceive it; the " curved space-time " of the relativist is not the space and time of which we are directly aware. In interpreting the theory it is necessary to understand that it deals with a relational order which cannot be readily described except by mathematical symbolism, and to which the names " space " and " time " can be applied only metaphorically. The task of philosophy here is therefore important and difficult.

Whatever may be the final interpretation of the theory of relativity, one effect of the new physics has been to undermine the position of the New Realism. It is not easy to maintain in the supposed interests of science that we perceive things as they are in themselves, when science offers to us, as its nearest approach to a representation of things as they are, descriptions which year by year grow more and more different from anything which we perceive, or could possibly perceive. Even before the verification, in 1919, of Einstein's theory a number of American philosophers adopted a position which, under the name of Critical Realism, amounts to a substantial retreat from the extreme Realist attitude. Notable among their number are George Santayana (*Scepticism and Animal Faith*, 1923), Durant Drake (*Mind and its Place in Nature*, 1925—not to be confounded with Broad's work of the same year and nearly the same title), and C. A. Strong. These thinkers part company with other Realists in differing degrees. One and all, however, they agree in drawing a sharp distinction between the " existence " of objects, which is independent of their perception by us, and the " essence "

(or sum of qualities) which we rightly or wrongly ascribe to them. How much of the "essence" which we attribute to an object is apparent only, and how much is its real essence, the Critical Realists leave to be decided by purely pragmatic criteria.

Foremost among those contemporary thinkers who have made it their special task to mediate between philosophy and science stands Bertrand Russell (*Our Knowledge of the External World*, 1914; *An Outline of Philosophy*, 1927). Russell first became known in the world of philosophy as a champion of the New Realism, but has passed from that position to one closely resembling that of Hume. As for Hume, so for Russell, we have direct acquaintance only with our impressions and ideas (or, as Russell prefers to put it, our "percepts," "images," and "beliefs") at the present time. Knowledge of the external world and of our own past is precarious, and at best only probable. Logically, Solipsism is irrefutable. In practice, however, we all—including Russell—believe in external objects and in past and future events. Such belief rests in the last resort on "physiological inference"—*i.e*, when a particular kind of percept occurs, we instinctively act as if a corresponding kind of external object were there, or as if a certain kind of event had occurred or were about to occur. If our act leads to expected results, we call our belief true; if not, we call it false. This part of Russell's doctrine has obvious affinities with Pragmatism.

His most characteristic contribution to philosophy, however, is his analysis of the nature of an external object. All that I know of an object at first hand is the particular percept or group of percepts which I associate with it. Assuming that my memory of the immediate past is reliable (which it is impossible strictly to prove), I find that my present percept or group of percepts is connected with continuously varying percepts in the past. Assuming, again, that other people exist and that their testimony is reliable (which it is similarly impossible or prove), I find that every one in my vicinity experiences a percept or group of percepts analogous to

mine, but varying from individual to individual. It is conceivable, says Russell, that an external object is nothing but the varying percepts, or groups of percepts, which different percipients associate with it; we cannot prove that it is more. Such a limitation, however, would render a scientific description of the world impossibly complicated. He prefers, therefore, to regard our percepts as causally connected with chains of events external to us. (It should be noted that, owing to the relativists' union of space and time in a four-dimensional continuum, " events " now replace particles as the ultimate physical units. Formerly, an *event* could only be conceived as happening to an enduring *thing ;* now, an enduring *thing* is conceived as a causal series of *events*.) What external events are in themselves we can never know. They may, or may not, resemble the percepts they cause. We are justified, however, in arguing that each numerically distinct percept must be caused by at least one (but not necessarily only one) numerically distinct chain of events, and that where percepts are dissimilar there must be dissimilarity in the series of events which cause them. Scientific observation and experiment, therefore, give us fairly probable information as to the *structure* of the events which compose the universe, but none whatever as to their intrinsic nature. The only events of which we know the intrinsic nature are those which occur in our own minds.

Readers of Russell must admire the ingenuity with which he constructs a philosophy of the universe out of the scanty materials which he allows himself. It is difficult, however, to regard as entirely satisfying a line of thought which starts by admitting the irrefutability of Solipsism. There seems also to be an inconsistency in Russell's use of the notion of causality. In some places he appears to hold with Hume that the idea of causality, in the sense of necessary connection between events, has no place in true philosophy; yet he is obviously unable to get on without it, for in other places he makes important use of it. Finally, Russell's philosophy is completely atomic. All is reduced to mathe-

matically interrelated events. Some events—which alone we can strictly be said to know—happen to be part of our mental history. But Russell gives no satisfactory reason why these particular events should have that unique relation to one another which is involved in the unity of our present consciousness, in our memory of the past, and in all that we mean by personal identity.

Another thinker who essays the task of restating philosophy in relation to modern science is A. N. Whitehead (*The Concept of Nature*, 1920; *Science and the Modern World*, 1926). Whitehead, like Russell, was a mathematician before he turned to philosophy, and collaborated with him in *Principia Mathematica*. His philosophical writings are difficult reading, owing to his partiality for technical terms of his own invention. For him, as for Russell, the primary constituents of the universe are events. Unlike Russell, however, Whitehead holds that we have direct knowledge of events independent of our own minds, or, at any rate, of "aspects" of such events. When I look at a table it is an aspect of the table which I see, not a mere percept in my head. Whitehead insists that things are never entirely external to one another, but interpenetrate. The view that things are mutually external and exclusive he calls "the fallacy of simple location." This fallacy, says Whitehead, has vitiated science from the time of Newton to the present, and lies at the root of scientific Materialism. A thing does not exist only where it seems to be; it *is* where it *acts*. This difficult doctrine may be easier to understand if we remember that the great stumbling-block offered by the Newtonian theory of gravitation was its apparent implication of action at a distance; and that the theory of relativity has surmounted that stumbling-block by treating every particle of matter, not as a compact entity located exclusively in one tiny region of space, but as a geometrical modification of space-time, centred in one small region, yet pervading the whole universe, though in diminishing degrees as we recede from that centre.

Whitehead also endeavours to meet the difficulty

presented by the emergence of organic life from the inorganic. He does this by propounding the view that all nature is really organic, the "inorganic" being that portion of the universe in which the constituent organic units are too small to affect us except in the aggregate. The essence of life for Whitehead, as for Bergson, is duration. We can theoretically conceive spatial configuration apart from time, but we cannot so conceive life. An organism, as such, requires time to exist; it has a life-history. But even the simplest physical event (the existence of an electron between two of its "jumps," or any simpler event if it exists) requires time, though only a very minute fraction of time. Whitehead suggests that time is ultimately not continuous, but "epochal"—*i.e.*, that there are minute "event-particles" which cannot be divided into any smaller units. From such simple events, which require only the very shortest time to take place and vanish, have been gradually built up more and more complex life-histories, the only ones directly known to science being those of the organisms which we commonly regard as alone entitled to that name, and the latest product of the process being, of course, man. Evolution may thus be regarded as a struggle to achieve higher organisation and richer life-histories. J. C. Smuts, the celebrated South African soldier and statesman, has advanced a similar theory in his *Holism* (1926).

Developments in the last thirty years have brought philosophy and science appreciably nearer to a *modus vivendi* than they were at the beginning of the century. On the side of science, the abandonment of the old "billiard-ball" conception of a material particle has made it easier to conceive the physical world as a basis for life and mind—perhaps even as something from which life and mind of an elementary sort are nowhere wholly absent. On the side of philosophy, high and dry Hegelianism, with its cavalier treatment of scientific facts, has gone for ever. Never again will it be possible for a metaphysician of repute to attempt to construct the universe from pure logic, and to reduce this solid-

seeming world, in Bradley's phrase, to " an unearthly ballet of bloodless categories."

Absolute Idealism of the Hegelian brand was attacked, as we have seen, from two sides, the religious and the scientific. The religious offensive has proved nugatory. The Churches, after seeking a stalking-horse for their dogmas successively in Idealism, Pragmatism, and Realism, find that no system of philosophy, however it may masquerade in Theistic terminology, provides a satisfactory basis for apologetic. Rome, indeed, brazening out her musty falsehoods to the bitter end, still offers the theology of Thomas Aquinas as a sovereign specific for all doubt—a thirteenth-century debasement of Aristotle as an antidote to twentieth-century knowledge. Protestant divines, for their part, know that the intellectual game is up, and fall back more and more upon what they call " religious experience," and Mr. J. M. Robertson calls " the religion of auto-suggestion." Pascal, that mathematician of genius who was turned by disease into a devotee of superstition, confessed the nullity of philosophic apologia nearly three hundred years ago in his famous invocation : *Dieu d'Abraham, Dieu d'Isaac, Dieu de Jacob—non pas des philosophes et des sçavans.*

The attack in the interests of science has been more fruitful, since it has obliged philosophers to take scientific truth more seriously than some of them were once inclined to do. Nevertheless, that attack, as we have seen, overreached itself in the New Realism. The results of science itself preclude us from holding that percepts are independent of perception. The attempt to treat nature as " closed to mind " has led in the case of Russell to a return to the scepticism of Hume, and in the case of Whitehead to a renewed assault on the problem of knowledge, issuing in a theory of nature which is surprisingly close to some recent types of Idealistic Monism, and which needs very little restatement to bring it closer still. From a view which declares the world essentially organic it is a short step to one which declares the world essentially mental, and which

sees in cosmic and terrestrial history the struggle of mind to rise from rudimentary levels to larger and wider reaches of self-consciousness. Such a synthesis of Realism and Idealism should be the outcome of philosophy as soon as it can disengage itself from that preoccupation with the interests of supernatural religion which has contributed more than any other factor to its stagnation and sterility in the past.

BIBLIOGRAPHY

Kuno Fischer. *Geschichte der neuern Philosophie.* Nine vols. Fourth ed.; Heidelberg, 1897–1904. (Comes down to Schopenhauer.)

Erdmann. *Geschichte der Philosophie.* Vol. ii. Fourth ed.; Berlin, 1896. (Comes down to Lotze; third ed.; trans. by W. S. Hough; London, 1889.)

Windelband. *Geschichte der neuern Philosophie.* Two vols. Fifth ed. (Comes down to Herbart and Beneke. There is an English trans. of Windelband's *General History of Philosophy*, by J. H. Tufts, New York, 1893. In his contribution to the General History of Philosophy in the *Kultur der Gegenwart*, Berlin, 1909, Windelband includes a brief but useful summary of Pragmatism and Bergson.)

Levy-Bruhl. *History of Modern Philosophy in France.* Trans. by Miss Coblence. London, 1890.

Forsyth, T. M. *English Philosophy : A Study of its Methods and General Development.* London, 1910. (A. & C. Black.)

Giordano Bruno. *Opere Italiane.* Ed. P. Lagarde. Göttingen, 1888.

—— *Opera latine conscripta.* Naples and Florence, 1879–91.

McIntyre, J. L. *Life of Giordano Bruno.* London, 1903.

Bacon, Francis. *Works and Life.* Ed. by Ellis and Spedding. Fourteen vols. 1864–74.—*Works.* One vol. Ed. by Ellis, Spedding, and Robertson. (Routledge.)—*Novum Organum.* Ed. by T. Fowler. Oxford, 1878.

Abbott, Edwin. *Francis Bacon.* London, 1885.

Church, R. W. *Bacon* (English Men of Letters). London, 1889.

Hobbes, Thomas. *Works English and Latin.* Ed. Sir Wm. Molesworth. Sixteen vols. London, 1839–45.

Robertson, G. C. *Hobbes.* London, 1886 (Blackwood's Philosophical Classics).

Stephen, Sir Leslie. *Hobbes.* London, 1903 (English Men of Letters).

—— *English Thought in the Eighteenth Century.* Second ed.; two vols. London, 1881.

—— *The English Utilitarians.* Three vols. London, 1900.

Descartes. *Œuvres*. Ed. V. Cousin. Eleven vols. Paris, 1824–1828.—English trans. of the *Method* and the *Meditations* in the Scott Library. London, 1901.—*Life*, by Elizabeth Haldane. London, 1905.

Malebranche. *Œuvres*. Three vols. Ed. Jules Simon. Paris, 1871.

Spinoza. *Opera*. Ed. Van Vloten and Land. Two vols. The Hague, 1882–83.

—— *Life and Philosophy*. By Sir Fr. Pollock. London, 1880; second ed., 1899.

—— *A Study of*. By James Martineau. London, 1883.

——*'s Ethics, A Study of*. By H. H. Joachim. Oxford, 1901.

—— Trans. of his principal works. By Elwes in Bohn's Library. Two vols., 1883–86. Also Everyman's Library. (Dent.)

—— *Ethics*. Trans. by Hale White, revised by Amelia Stirling. London, 1899.

—— *Leben und Lehre*. Von J. Freudenthal. 1904.

Leibniz. *Philosophische Schriften*. Seven vols. Ed. C. J. Gerhardt. Berlin, 1875–90.—*The Philosophy of Leibniz*. By Bertrand Russell. Cambridge, 1900.

Locke, John. *Works*. Nine vols. London, 1824.

—— *Essay Concerning Human Understanding*. Two vols.; in Bohn's Library. London, 1877.

—— *Life of*. By Fox Bourne. Two vols. London, 1876.

—— By Thomas Fowler. London, 1880 (English Men of Letters).

—— By Prof. A. C. Fraser; in Blackwood's Phil. Classics. 1890.

Berkeley, George. *Works and Life*. Ed. A. C. Fraser. Four vols. Oxford, 1871.

—— By Fraser (Philosophical Classics). 1881.

Hume, David. *Philosophical Works*. Four vols. Ed. Green and Grose. London, 1874–75.

—— By T. H. Huxley (English Men of Letters). New edition. London, 1894.

Kant. *Werke*. Ed. Rosenkranz and Schubert. Twelve vols. 1838–40. Two new editions, including the correspondence, are now in course of publication at Berlin. There are English translations of all the principal works.

—— *Life and Doctrine*. By F. Paulsen; trans. by Creighton and Lefevre. London, 1908.

Fichte, J. G. *Werke*. Eleven vols. 1834–46. Trans. of his more popular works by Dr. W. Smith. Two vols. London, 1890.

Adamson. *Fichte*. In Blackwood's Phil. Classics. 1901.

Schelling, F. W. J. *Werke*. Fourteen vols. Stuttgart, 1856–61.

Watson, Prof. J. *Schelling's Transcendental Idealism.* Chicago, 1882.

Hegel, G. W. F. *Werke.* Nineteen vols. in twenty-one. Leipzig, 1832–87.

Hegel. By Prof. E. Caird (Philosophical Classics for English Readers). Edinburgh, 1883. Hegel's Philosophies of *Law, Religion, History, Mind,* his *History of Philosophy,* and the smaller *Logic,* have been translated into English.

Schopenhauer. *Werke.* Six volumes in the Reclam Series. Leipzig, 1892.

Ribot. *La Philosophie de Schopenhauer.* Ninth ed.; Paris, 1909.

Wallace, Prof. W. *Life of Schopenhauer* (Great Writers Series). London, 1890.

Whittaker, Thomas. "Schopenhauer," in *Philosophies Ancient and Modern.* London, 1908.

Schopenhauer's *World as Will and Idea.* Trans. by Haldane and Kemp. Three vols. London, 1884–86.—*Essays.* Trans. by Belfort Bax (Bohn's Library). London, 1891.

Schopenhauer. *Studies.* Consisting of translations by T. Bailey Saunders. Seven vols. London, 1889–96.—Other essays translated by Madame Hillebrand (London, 1889) and by A. B. Ballock (London, 1903).

Herbart, J. F. *Werke.* Ed. Kehrbach. Fifteen vols. 1887 *ff.*

Wagner. *Vollständige Darstellung d. Lehre Herbarts.* 1896.

Hayward, F. H. *The Student's Herbart.* 1902.

Hamilton, Sir W. *Discussions on Philosophy. Second ed.* London, 1853.

Comte, Auguste. *Cours de Philosophie Positive.* Five vols. Paris, 1830–42.—*Politique Positive.* Four vols. Paris, 1851–54.

Caird, Edward. *The Social Philosophy of Auguste Comte.* Glasgow, 1885.

Levy-Bruhl. *The Philosophy of Auguste Comte.* English trans. London, 1903.

Whewell, Wm. *Philosophy of the Inductive Sciences.* London, 1840.

Mill, J. S. *A System of Logic.* Two vols. London, 1843.—*On Liberty.* London, 1859.—*Utilitarianism.* London, 1863.—*Examination of Sir William Hamilton's Philosophy.* London, 1865.

Whittaker, T. "Comte and Mill," in *Philosophies Ancient and Modern.* London, 1908.

Spencer, Herbert. *First Principles.* London, 1862.—*Essays.* Three vols. London, 1891.—*Autobiography.* London, 1904.

Macpherson, Hector. *Herbert Spencer.* London, 1900.

Green, T. H. *Prolegomena to Ethics.* Oxford, 1884.

—— *Works.* Three vols. London, 1885–1900.

Bradley, F. H. *Appearance and Reality*. Latest ed. London, 1920. *Essays on Truth and Reality*. London, 1914.

Lotze, H. *Mikrocosmus*. 1856–64.—*System der Philosophie*. 1874–79.—English trans. of the *Microc*. Two vols. Edinburgh, 1885.—Of the *Metaphysics*. Two vols. Oxford. 1884.

Jones, Sir Henry. *The Philosophy of Lotze*. Glasgow, 1895.

Hartmann, Ed. von. *Die Philosophie des Unbewussten*. 1869. English trans. by W. C. Coupland. Three vols. London, 1884.

Nietzsche, Fr. *Werke*. Leipzig, 1895 *ff*. English trans. in fourteen vols. Edinburgh. (T. N. Foulis.)—D. Halévy, *La Vie de Nietzsche*. Paris, 1909.

Russell, Bertrand. *The Problems of Philosophy* (Home University Library). London, 1912. *Our Knowledge of the External World*. London, 1914. *An Outline of Philosophy*. London, 1927.

Gunn, J. A. *Modern French Philosophy*. London, 1922.

Muirhead, J. H., edited by *Contemporary British Philosophy*. Two vols. London, 1924 and 1925.

Broad, C. D. *The Mind and its Place in Nature*. London, 1925.

Alexander, S. *Space, Time, and Deity*. London, 1920.

Bergson, H. *L'Évolution Créatrice*. Paris, 1907. English trans. *Creative Evolution*. London, 1920.

McTaggart, J. E. *The Nature of Existence*. London, 1921.

Haldane, Viscount. *The Philosophy of Humanism and of Other Subjects*. London, 1922.

Whitehead, A. N. *Science and the Modern World*. London, 1926.

Joad, C. E. M. *Introduction to Modern Philosophy*. London, 1924.

INDEX

ABBOTT, E. A., quoted, 12
Agnosticism, 57, 60, 119, 121, 122
Alexander, Samuel, 130–31, 133
Anaximander, 10
Aquinas, St. Thomas, 4, 140
Aristotle, 3, 4, 5, 6, 16, 41, 44, 109, 118, 120, 140
Arnold, Matthew, 46
Athens, 1 *f.*
Atomism, revival of, 8, 18
Averroes, 3

BACON, FRANCIS, 10 *ff.*, 20, 24, 27, 51
Bacon, Roger, 4
Baur, F. C., 121
Bax, E. Belfort, 126, 128, 131
Bayle, Pierre, 60
Beneke, F. E., 104
Bergson, Henri, 124, 127, 129, 139
Berkeley, Bishop, 36, 61 *ff.*; *Theory of Vision*, 62; Idealism, 62 *ff.*, 76, 125, 130–31
Boyle, Robert, 18
Bradley, F. H., 121, 126, 140
Brahe, Tycho, 15
Broad, C. D., 133, 135
Brown, Dr. Thomas, 113
Bruno, Giordano, 6 *ff.*, 19, 38, 43, 91
Byron, 100

CABANIS, 132
Caird, Edward, 121
Caird, John, *ib.*
Calvinism, 23
Case, Thomas, 129
Catholicism and philosophy, 2 *ff.*
Causation. *See* Hume, Kant, Hegel, Mill, Russell
Chance, 126
Christianity. See Catholicism
Christina, Queen, 27 *f.*
Church, Dean, quoted, 13
Collier, Arthur, 63
Collins, Anthony, 60
Columbus, 5
Comte, Auguste, 108 *ff.*; classification of the sciences, 110; *Politique Positive*, *ib.*; philosophy of history, 111, 113
Condillac, 106
Copernicanism, 5 *f.*
Cousin, Victor, 77
Critical Realism, 135–36
Croce, Benedetto, 127

DANTE, 5 *f.*
Darwin, Charles, 119, 132
Democritus, 8
Descartes, René, 25, 26 *ff.*, 130; on belief, 34, 41, 51, 55, 74
Dewey, John, 129
D'Holbach, 132
Drake, Durant, 135
Dualism, 130
Duns Scotus, 4

ECLECTICS, French, 106 *f.*; German, 122
Ego, the Absolute, 89
Einstein, Albert, 133–34

Elizabeth, Princess, 26
Emergence, 131–33
Empedocles, 55
Epicurus, 8, 19, 25
Epistemology, 55
Erigena, John Scotus, 3, 4
Ethica, Spinoza's, 40
Euclid, 133

Fichte, J. G., 86 *ff.*; his definition of God, 87; as German patriot, 87 *f.*; his idealism, 88 *ff.*; ethical standpoint, 90; later teaching, 93
Ficino, Marsilio, 5
Final causes in modern philosophy, 51; in Plato, *ib.*
Form and Matter, 9, 15, 20
Free-will, 128

Galileo, 14, 21, 131, 133
Gassendi, 42
Gentile, Giovanni, 127
Geulincx, 35, 36, 43
Gilbert, 8, 14
God, 125, 128, 131, 140
Godwin, William, 118
Goethe, 87
Green, T. H., 121

Haeckel, Ernst, 124
Haldane, Lord, 121
Haldane, Miss E. S., quoted, 27
Hamilton, Sir William, 107 *f.*, 112
Hartmann, Ed. von, 122 *f.*, 126
Harvey, 14
Hegel, G. F. W., on Spinoza, 45, 87, 91, 94 *ff.*; *Phenomenology of Mind*, 94; *Science of Logic*, *ib.*; *Encyclopædia*, 96; *Philosophy of Law*, *ib.*; *Æsthetics*, *ib.*; *Philosophy of History*, *ib.*; his didactic method, 96 *ff.*; negation of supernatural religion, 98, 100, 105, 106
Hegelianism, 126, 139–40
Hegelians, the English, 121 *ff.*
Heine, 88, 98
Heracleitus, 10, 124
Herbart, J. F., 104, 122
Hobbes, Thomas, 19 *ff.*, 42, 47, 57
Hooker, Richard, and the Social Contract, 25
Humanism in the nineteenth century, 105
Hume, David, 65 *ff.*, 125, 131, 136–37, 140; character as a historian, 65; theory of causation, 68 *ff.*; attitude towards theism, 71, 76; a precursor of Comte, 109; and of Mill, 113 *ff.*
Huxley, T. H., 107
Huyghens on Descartes, 34

Idealism, 125–29, 140–41
Immortality, 128
Induction, Baconian, 17
Innate ideas, 57, 80
Intuition, 127

James, William, 128–29
John of Salisbury, 4
Justinian, 1

Kant, Immanuel, 72 *ff.*, 125, 128, 133; his nebular hypothesis, 74; on synthetic and analytic judgments, 74 *ff.*; on space and time, 76 *ff.*; *Critique of Pure Reason*, 79 *ff.*; on causation, 80 *f.*; moral and religious philosophy, 82 *ff.*, 100, 112, 113, 124
Kepler, 8, 15, 18
Klopstock, 86

Lamarck, 117, 118
La Mettrie, 132
Laplace, 74
Law, 126, 128

Leibniz, G. W., 48 *ff.*; optimism, 50 *ff.*; monadology, 52; determinism, 53; pre-established harmony, *ib.*, 122
Lewes, G. H., 88, 91
Locke, John, 25, 55 *ff.*; on toleration, 56; his proof of theism, 58; moral inconsistency, 59 *f.*, 61, 74, 76
Lotze, R. H., 122
Lucretius, 8, 17, 19
Luther, 5
Lyell, Sir Charles, 117

Macaulay on Bacon, 14; on Hobbes, 24, 60
McTaggart, Dr. J. E., 122
Maine de Biran, 106
Malebranche, 35 *ff.*, 43, 63, 76
Malthus, 118
Mansel, H. L., 107
Materialism, 125, 128, 131–32, 138
Materialists, German, 124
Matter, 130–31
Mill, J. S., 112 *ff.*; *System of Logic*, 113; metaphysics, 114; theology, *ib.*; ethics, 115 *f.*; politics, 115; character, 116
Milne-Edwards, 118
Moleschott, 132
Monadism, 9, 59
Monism, 125, 128–29, 140
Morgan, C. Lloyd, 133

Napier, 14
Neo-Kantianism, 124
Neo-Platonism, 2 *f.*
New Realism, 130–31, 135–36, 140
Newton, Isaac, 49, 133, 138
Nicolas of Cusa, 10
Nietzsche, Friedrich, 123 *f.*
Norris, John, 63

Occam, 4
Occasionalism, 35
Ostwald, 124

Pantheism, 37, 42
Parmenides, 8
Pascal, Blaise, 35, 140
Plotinus, 2, 5, 10, 37
Positivism. *See* Comte
Power, idea of, in Spinoza, 44; how connected with causation, 70
Pragmatism, 124, 128–29, 136, 140
Prichard, H. A., 130
Proclus, 2
Pythagoreans, 8

Realism, 130–31, 135–36, 140–41
Reality, degrees of, 48
Reid, Thomas, 72, 106
Religion, 126, 129, 140–41
Renaissance, scientific activity of the, 14
Robertson, J. M., 140
Rousseau, 25, 100
Russell, Bertrand, 136–38, 140

St. Simon, 109
Santayana, George, 135
Scepticism, 129, 135
Schelling, F. W. J., 90 *ff.*; natural philosophy, 92; *Transcendental Idealism*, 92 *f.*; romanticism, 93; Absolutism, 94, 106
Schiller, F. C. S., quoted, 15, 129
Schopenhauer, Arthur, 87, 99 *ff.*; pessimism, 100; metaphysics, 100 *ff.*; ethics, 103 *f.*, 122, 126
Sextus Empiricus, 57
Shaftesbury, Lord, author of the *Characteristics*, 60
Shelley, 117
Sidgwick, Henry, 115
Smith, Adam, 119
Smuts, J. C., 139
Social Contract, 22
Solipsism, 136–37
Space-Time, 130–31, 134–35, 137–38

Spencer, Herbert, 107, 116 *ff.*; *Social Statics*, 116; *Psychology*, 118; *Synthetic Philosophy*, 119; on religion, *ib.*; formula of evolution, 120, 122, 133
Spencer, Rev. Thomas, 116
Spinoza, 25, 38 *ff.*; *Tractatus Theologico-Politicus*, 40; not a mystic, 46; ethics, 47 *f.*; return to Stoicism, 48, 49, 51, 59, 74, 93
Staël, Madame de, 106
Stirling, Dr. Hutchison, 121
Strauss, David, 96, 121
Strong, C. A., 135

Taylor, Mrs., and J. S. Mill, 112
Temple, Archbishop, 87
Theism. *See* God; also Descartes, Locke, Berkeley, Hume, Kant, Fichte, Mill
Timæus, Plato's, 34
Time, 127–28, 139
Toland, 60
Turgot, 109

Vaux, Clotilde de, and Comte, 112
Voltaire and optimism, 50
Vries, Simon de, and Spinoza, 38

Wallace, A. R., 119
Wallace, Prof. William, 121
Whewell, William, 112
Whitehead, A. N., 134, 138–40
Wilson, J. Cook, 130
Wordsworth, 48
Wycliffe, 4

THE RATIONALIST PRESS ASSOCIATION LIMITED

THIS book is one of the publications of the Rationalist Press Association Limited. The R.P.A., as it is generally styled, consists of some thousands of men and women scattered throughout the world, of many different nationalities, and of very varied social position and economic circumstance. They are pledged to no creed, to no set of dogmas; but they accept the supremacy of Reason, and aim at making this supremacy effectual in the affairs of everyday life.

In the thirty years of its existence the R.P.A. has printed and sold more than four million cheap reprints of the works of the great thinkers —Huxley, Darwin, Spencer, Mill, Haeckel, Renan, Paine, Winwood Reade, Lecky, Clodd, Bradlaugh, etc., in addition to hundreds of thousands of copies of new works on Science (particularly Evolution), History, Philosophy, and Biblical criticism.

The R.P.A. has recently launched two new series of books which are having a very large sale. The Forum Series, issued at 1s. and 7d., consists of original works by some of the leading thinkers of the day, including Sir Arthur Keith, Professor Julian Huxley, Hon. John Collier, Mr. C. E. M. Joad, Major Leonard Darwin, Professor Edward Westermarck, etc. The Thinker's Library comprises reprints of classical works, attractively produced at one shilling each. Among the titles which have already appeared are Mr. H. G. Wells's *First and Last Things* and *Short History of the World*, Spencer's *Education*, Haeckel's *Riddle of the Universe*, Mill's *On Liberty*, Darwin's *Origin of Species*, *Autobiography*, and *Descent of Man* (Part I).

The R.P.A. is not satisfied with what it has done. It wants to put within the reach of the leanest purse still more of the fine intellectual product of the ages; it wants to make it possible for every one to satisfy his thirst for knowledge, to know the facts of life; to induce every one to think fearlessly, clearly, and without bias.

To carry out these aims the co-operation of Rationalists is essential. If you are in sympathy with its objects, if you appreciate the work it has done in the past and would like to help it to do better work in the future, you should complete the form on the next page and

JOIN THE R.P.A. NOW!

The Rationalist Press Association Ltd.

APPLICATION FOR MEMBERSHIP

To The Secretary, *The Rationalist Press Association Limited,*
Nos. 4–6 Johnson's Court, Fleet Street, London, E.C.4.

Dear Sir,

I desire to become a Member [1] of the Rationalist Press Association Limited, and enclose herewith my first annual subscription [2] of .....; my Membership to commence with the current year.[3] I agree to abide by the Rules and Regulations of the Association as set forth in the Memorandum and Articles of Association.[4]

Please write in block letters

Name .....
[If lady, state whether Mrs. or Miss]

Address .....
.....

Occupation .....

Date ..... Signature .....

A Subscriber who does not wish to have his or her name published in the Annual Report or any other subscription list can add here the initials or pseudonym under which the contribution is to be acknowledged.

Initials or Pseudonym .....

---

[1] Persons under twenty-one years of age are not eligible for Membership, but may become "Non-member Subscribers."

[2] The minimum subscription is 5s., but it is hoped that those who can afford to subscribe more liberally will do so.

[3] Subscriptions are due in advance on the first of January of each year, so that persons who apply for Membership late in the year should cross out "the current" and substitute "next" if it be not their intention to renew the subscription in the following January.

[4] The Memorandum and Articles of Association, or any desired information, will be forwarded free on application to the Secretary.